S.174B

London
Natural
History
Society

THE LONDON NATURALIST

JOURNAL OF THE
LONDON NATURAL HISTORY SOCIETY

NATURAL HISTORY
MUSEUM LIBRARY
11 JAN 2016

No. 94 2015

Natural History Museum Library
000208708

THE LONDON NATURALIST

JOURNAL OF THE
LONDON NATURAL HISTORY SOCIETY
NO. 94 FOR THE YEAR 2015

EDITED BY NICK RUTTER

The publication of material in this journal does not imply that the views or opinions expressed are shared by the editor, the London Natural History Society, or any person other than the named authors.

NATURAL HISTORY
MUSEUM LIBRARY
11 JAN 2016

London
Natural
History
Society

PUBLISHED DECEMBER 2015

© London Natural History Society 2015
www.lnhs.org.uk

ISSN 0076 0579
ISBN 0 901009 36 9
World List abbreviation: *Lond. Nat.*

Bona fide researchers may quote from this publication provided that the source is acknowledged.

Printed by Swallowtail Print
Drayton Industrial Park
Norwich NR8 6RL
sales@swallowtailprint.co.uk

CONTENTS

London Natural History Society 4
Officers 5
The Society's Recorders 5
Editorial 7
Report of the Society for year ending 30 June 2014 8
Treasurer's report for the year ended 30 June 2014 10
Official and sectional reports for 2014 16
Presidential address: Helen Baker 30
Odonata report for 2014: Neil Anderson 46
Butterfly monitoring report 2014: Leslie Williams 52
Notes on the current status of butterflies in Blackheath and Greenwich Park: Joe Beale 63
Pocota personata returns to London: Russell Miller 88
Survey of Bookham Common: seventy-third year Progress report for 2014: Stuart Cole *et al* 102
GiGL and the LNHS: Mandy Rudd 109
Obituary: Ron Kettle 119
Obituary: Paul Cornelius 121
Book reviews 123

LONDON NATURAL HISTORY SOCIETY

The Society welcomes new members, both beginners and experts. Its recording area (the London Area) lies within a 20-mile (32-km) radius of St Paul's Cathedral and here most of its activities take place. Although much covered with bricks and mortar, it is an exciting region with an astonishing variety of flora and fauna.

The Society is open to those interested in arachnology, botany, conchology, conservation, ecology, entomology, geology, herpetology, mammalogy, ornithology, palaeontology, rambling and all other aspects of natural history. The Society comprises various sections, but all meetings are open to members without formality.

Publications

The London Naturalist, published annually, contains papers on the natural history and archaeology of the London Area and beyond, including records of plants and animals.

The London Bird Report, also published annually, contains the bird records for the London area for each year, as well as papers on various aspects of ornithology.

Bulletins of news items, including the Society's *Newsletter*, are sent to members throughout the year.

Indoor meetings These are held in most weeks throughout the year, with lectures, discussions, photographs and films on all aspects of natural history.

Field meetings Led by experts to visit interesting localities, both inside and outside our Area. These excursions are very popular with beginners wishing to increase their knowledge, and enable members to get to know one another.

Library A large selection of books and journals on most aspects of natural history is available for loan or consultation by members free of charge.

Reading circles Many important natural history journals are circulated by the Sections at a fraction of the cost of subscribing direct.

SUBSCRIPTIONS

ORDINARY MEMBERS	£20.00
STUDENT MEMBERS	£5.00
SENIOR MEMBERS	£16.00
FAMILY MEMBERS	£4.00
CORPORATE SUBSCRIBERS	£20.00

Student membership is for persons under 18 or receiving full-time education, and senior membership is for persons over 65 who have been continuous members of the Society for ten complete years. All except family members receive one free copy of *The London Naturalist* and *London Bird Report* each year. Cheques and postal orders, payable to the London Natural History Society, should be sent to:

The Assistant Treasurer, LNHS,
Robin Blades,
32 Ashfield Road, London N14 7JY

THE LONDON NATURALIST

Further copies of this issue of *The London Naturalist* may be obtained (price £8 plus £2 postage and packing in the UK) from Catherine Schmitt, 4 Falkland Avenue, London N3 1QR. Back numbers of most recent issues of both *The London Naturalist* and *London Bird Report* are also available from the same address. Cheques should be made payable to the London Natural History Society.

WEBSITE

www.lnhs.org.uk

LONDON NATURAL HISTORY SOCIETY

FOUNDED 1858

PRESIDENT

Helen Baker, MBOU
60 Townfield, Rickmansworth, Hertfordshire WD3 7DD

HONORARY VICE-PRESIDENTS

A. J. Barrett, D. Bevan, FLS, R. M. Burton, MA, FLS, J. A. Edgington, PhD, FLS, J. F. Hewlett, PhD, K. H. Hyatt, FLS

OFFICERS FOR 2015

Vice-Presidents: C. Bowlt, PhD, FLS, M. Burgess, D. J. Montier, C. W. Plant, BSc, FRES, P. J. Sellar, BSc(Eng), FRGS, MBOU, R. J. Swindells, E. G. D. Tuddenham, MD, H. M. V. Wilsdon, MBOU.

Secretary: D. Howdon, 381B Whitton Avenue East, Greenford, Middlesex, UB6 0JU

Treasurer: M. J. West, 52 Trinity Rd, Ware, Hertfordshire SG12 7DD

Assistant Treasurer (Membership): R. A. Blades, 32 Ashfield Road, Southgate, London N14 7JY

Librarian: D. W. Allen, 29 Huddleston Road, Tufnell Park, London N7 0AD

Editor, *The London Naturalist*: Nick Rutter, 40 Bracken Avenue, London SW12 8BH (nick.rutter@btinternet.com).

Chair of the Editorial Board, *London Bird Report*: Pete Lambert, 109 Gloucester Road, London E17 6AF (plamb@phonecoop.coop)

Editor, *Newsletter*: Mark Burgess (edlnhsnews@yahoo.co.uk).

Representative Members of Council: Bookham Common Survey - S. Cole; Botany - D. Bevan; Ecology and Entomology - S. Barnes; Hampstead Heath Survey - Vacant; Ornithology - G. de Silva

Elected Members of Council: R. A. Blades, K. Duke, J. A. Edgington, J. Hatton, J. Hewlett, K. H. Hyatt, M. Roberts, C. Schmitt, I. Woodward.

THE SOCIETY'S RECORDERS

BOTANY

Flowering Plants and Vascular Cryptogams: Mark Spencer PhD, FLS, 72 Michael Cliffe House, Skinner Street, London EC1R 0WX (020 7837 1471, m.spencer@nhm.ac.uk / hotfungus@hotmail.com).

Fungi: Vacant.

Lichens: John Skinner, 28 Parkanaur Avenue, Southend-on-Sea SS1 3HY (johnskinner082@gmail.com).

Bryophytes: Peter Howarth, 45 Southview Road, Tunbridge Wells, Kent, TN4 9BU (0792 014 3431, petehowarth@hotmail.com / peterjhowarth@gmail.com).

ECOLOGY AND ENTOMOLOGY

Mammals: Clive Herbert FLS, MIoD, 67A Ridgeway Avenue, Barnet EN4 8TL (armconservation@hotmail.com).

Reptiles and Amphibians: Tom Langton BSc, FSB, 67 Forest Road, Leytonstone, London E11 1JS (t.langt@virgin.net).

Fishes: Vacant.

Arachnida (spiders and pseudoscorpions): J. Edward Milner BSc, 80 Weston Park, London N8 9TB (acacia@dial.pipex.com).

Coleoptera (Carabidae & Coccinellidae) (ground beetles & ladybirds): Paul Mabbott BSc, 49 Endowood Road, Sheffield S7 2LY (paulmabbott@blueyonder.co.uk).

Coleoptera (all other beetles): Maxwell Barclay, 47 Tynemouth Street, London SW6 2QS (m.barclay@nhm.ac.uk).

Hymenoptera (bees, wasps & ants): Ray Uffen, 4 Mardley Avenue, Welwyn AL6 0UD (014 3871 4968, ruffen@talktalk.net).

Diptera (flies): Duncan Sivell, Natural History Museum, Cromwell Road, London SW7 5BD (d.sivell@nhm.ac.uk)

Lepidoptera (butterflies): Leslie Williams, 34 Christchurch Avenue, Harrow HA3 8NJ (leslie.williams1597@btinternet.com).

Lepidoptera (moths) Syrphidae and invertebrates not otherwise listed: Colin W. Plant BSc, FRES, 14 West Road, Bishop's Stortford CM23 3QP (cpauk1@ntlworld.com).

Hemiptera (true bugs): Tristan Bantock, 101 Crouch Hill, London N8 9RD (tristanba@googlemail.com).

Orthoptera (grasshoppers & crickets): Sarah Barnes (sarah.j.barnes@virgin.net).

Odonata (dragonflies & damselflies): Neil Anderson BSc, 52 Beechwood Avenue, Greenford UB6 9UB (neil@anders42.freeserve.co.uk).

Soil-dwelling Invertebrates (Symphyla, Diplura, Isopoda, Myriapoda): Andy Keay, 37 Merrymeet, Banstead SM7 3HX (woodchips1@btinternet.com).

Plant galls: Tommy Root, 48 Coldhams Crescent, Huntingdon PE29 1UG. (trroot@hotmail.co.uk).

Mollusca: Vacant.

GEOLOGY: Vacant.

LONDON BIRD CLUB

Chairman of Recorders Committee: Andrew Self, 16 Harp Island Close, Neasden, London, NW10 0DF (020 8208 2139, a-self@sky.com).

Chairman of Rarities Committee: Bob Watts, 18 Nightingale Lane, London, N8 7QU (0781 590 0579).

Bird Recorder for London: Andrew Self.

Buckinghamshire: Andrew Moon, 46 Highfield Way, Rickmansworth, Hertfordshire WD3 7PR (andrew.moon@talk21.com).

Essex: Roy Woodward, 62c High Street, Cheshunt, Hertfordshire, EN8 0AH (roykwoodward@gmail.com).

Hertfordshire: Joan Thompson, 73 Raglan Gardens, Watford, Hertfordshire, WD19 4LJ (lnhshertsrecorder@jksthompson.plus.com).

Inner London: Richard Bonser, Flat 7, 96 Rope Street, Surrey Quays, London SE16 7TQ (richbonser8181@hotmail.com).

Kent: John Archer, 8 Smead Way, London SE13 7GE (john_archer@gofast.co.uk).

Middlesex: Sean Huggins, 206 East Ferry Road, London E14 3AY (shuggins@hotmail.co.uk).

Surrey: David Campbell, Flat 12, California Court, 25 Downs Road, Sutton, Surrey SM2 5NR (devilbirder@gmail.com).

Requests for information should be made to the appropriate recorder.

EDITORIAL

It is a daunting prospect to take on the role of Editor from Keith Hyatt, who, as he mentioned in his Editorial last year, held that role for 35 years – a truly outstanding contribution. Having now been through the process of editing my first issue of *The London Naturalist*, I realise how much work Keith must have put in over the years.

I understand that, when Keith started, he did have to chase up contributions for his first few editions. I now find myself in a not dissimilar position – so, please do feel free to offer contributions. In addition, while I have benefited greatly from the assistance of Clive Herbert, I would very much welcome any additional offers of input – my hope is to establish a team approach to the production of *The London Naturalist*, as has been done so successfully with the *London Bird Report*.

My approach to change in *The London Naturalist* will, I hope, be one of evolution rather than revolution. We have adopted a new typeface, to reflect that used in the *London Bird Report*, and have benefited also from the assistance of Nigel Partridge, who helps with the design of that publication. While acknowledging that the Society's two major annual journals do fulfil different functions, I feel that there is sense in adopting a consistent approach and style between the two where possible. In that respect, I have also been very grateful for the input of Pete Lambert, the chair of their editorial board, and Mike Trier, their design co-ordinator.

The focus of *The London Naturalist* will remain on papers on the natural history of the London Area, including records of plant and animals. While technically the Society's remit also covers archaeology, I think it has been some time since any archaeological papers have been included in *The London Naturalist*. While there may be scope for papers dealing with issues outside the London Area, I anticipate that London will remain very much the focus. In that context, it is interesting to note, as will be seen from the book reviews, that there is considerable interest in urban wildlife, and in exotic and invasive species, both of which are issues of particular relevance to us in London.

It is a privilege to take on the responsibility of the editorial role of such a long-standing and respected publication. I would welcome feedback, and, as mentioned above, any offers of contributions and of assistance would be most welcome.

NICK RUTTER

REPORT OF THE SOCIETY FOR THE YEAR ENDING 30 JUNE 2014

APPROVED AT THE ANNUAL GENERAL MEETING ON 1 DECEMBER 2014

Objects

The objects of the Society are the study and recording of natural history, archaeology and other kindred subjects, especially within twenty miles of St Paul's Cathedral, the promotion of scientific investigations, the appreciation and conservation of the natural environment and the publication in the Society's journals of scientific and educational papers. Activities and achievements in respect of these objectives are described below.

Governance: Council, Committees and Sections

A Council of Trustees, comprising the officers (President, Treasurer, Secretary), up to ten representatives of the members at large and one representative of each of the Society's Sections (currently five) governs the Society. Sarah Barnes represented the Ecology & Entomology Section, David Darrell-Lambert the London Bird Club Section and John Swindells the Botany Section. Stuart Cole remained as representative for the Bookham Common Survey. The post of Hampstead Heath Survey representative was unfilled in this year.

Jan Hewlett continued as acting President for the first half of this year and is to be thanked for stepping in to cover the unexpected Presidential vacancy (as reported in last year's annual report). In recognition of her valued service to the Society, and natural history, of which this was only the most recent example Council appointed her as an Honorary Vice-President at it first meeting in 2014.

Helen Baker was elected President at the AGM in December and has presided over Council through the year.

Rule 4(c), limiting a continuous period of elected membership to five years, came into force in December 2005 and was first implemented at the AGM in 2010. No one is required to stand down under this rule at the end of the current year.

The Administration and Finance Committee, chaired by Michael Wilsdon, dealt with much delegated business.

Membership

96 new members joined during the year, compared with 66 last year. The number of individual members currently stands at 917, compared with 924 at the same time last year, and 948 the previous year.

Although it was nice to see an increase in the number of new members the continued decline in total membership remains a disturbing trend and one that has been the subject of much discussion in Council. However Council will not be able to reverse such a decline on its own, we need members to tell us what they want from the Society, what we should do more of and what would encourage people they know to join. Members who know people interested in natural history who are not LNHS members are encouraged to convince them to join us. The Society is not just for experts – field meetings are planned with beginners in mind, and newcomers are always encouraged to play an active part in the Society's affairs.

We record with regret the deaths of the following members during the year to 30 June (date of joining in brackets): Dr Pamela Aihie (1999), Miss Erika Dunkel (1983), Mr Phil Hollom (1929), Mr Alfred 'Wilberforce' Jones (1951), Mr Frank E Leaver (1962), Mr Pedro Martinez (2011), Mr David Nagle (1994), Mr Peter Saw (2006), Ms Jacqueline Shane (1990), Mrs Johnnie Slattery (1968), Mr Aubrey Tucker (1974), Mr George Wheeler (1963)

Finances

The annual financial report accompanies this annual report. The Society continues to receive a significant amount of income as a result of those members who pay under the gift aid scheme, and those members are thanked for doing so.

Activities

The Botany Section continued to focus on field work for the *Flora of London* Project aiming to produce a new flora of the London Area to replace Rodney Burton's 1983 *Flora of the London Area*. The Flora remains a high profile and important society project, members are strongly encouraged to get out and "bash a square" or two for this work.

The Ecology and Entomology Section continued its well-attended programme of field and indoor meetings covering a diverse range of taxa and developing a group of regular attendees as well as more occasional joiners. The Section again represented the LNHS at the annual exhibitions of the Amateur Entomologists Society and the British Entomological and Natural History Society.

Under the brand of the London Bird Club the Society has continued to run a series of field meetings showing the diversity of bird life that the LNHS area has to offer. Indoor meetings have continued to prove popular and covered a wide variety of birding topics.

Recording and recorders

Thanks go to our recorders for all their continuing hard work.

Journals and other publications

The London Naturalist 92 (2013) was distributed to members in February 2014. Keith Hyatt our long-serving editor of *The London Naturalist* has announced he will be standing down from this role after the 2014 edition. During the reporting year Council appointed Nick Rutter as receiving editor, and chair of a new *London Naturalist* editorial board which will take over the editing of this journal from the 2015 edition onwards.

The *London Bird Report* for 2011 was published in December 2013. The editorial board has worked hard to get these reports out and, outside the period covered by this annual report, the 2012 edition was published in August 2014.

Council made a financial contribution of £5000 towards the publication of "The Birds of London" by former *London Bird Report* editor Andrew Self. This approach to delivering our charitable objectives by supporting the publication of works about the natural history of our area is a new approach compared with the more usual action the Society has taken of publishing such materials ourselves (often incurring a loss).

Library

David Allen the LNHS librarian continues his good work operating and maintaining our library in its home in the Angela Marmont Centre for UK Biodiversity at the Natural History Museum's Darwin Centre Phase 2 making it available to the public (for reference) and LNHS members (for borrowing). The library is an important resource for members providing access to a wide range of out of print and hard to find natural history titles, and unlike many other libraries the Angela Marmont Centre is very welcoming of people bringing in specimens to try to identify. Members are encouraged to make use of it.

Conservation of the natural environment

Rich habitats are still under threat from developers. The Society is often asked to lend its voice to protests against such developments. Council's view is that an appropriate campaigning body in such cases is the London Wildlife Trust, the LNHS being better placed to provide evidence-based advice if required. Our partnership with GiGL helps ensure that our high quality validated records are available for such purposes.

This report has been prepared with due regard to the Charity Commission's guidance on public benefit.

LONDON NATURAL HISTORY SOCIETY

TREASURER'S REPORT FOR THE YEAR ENDED 30TH JUNE 2014

As last year, the Society's accounts are presented on a receipts and payments basis, as permitted by the Charity Commission.

At the end of the financial year on 30 June 2014, the total net assets of the Society as detailed in the Statement of Assets and Liabilities had fallen by £8,937 to £339,670 compared with £348,607 the previous year, as a result of a transfer of £8,000 from the COIF Investment account to cover items of expenditure mentioned below, and a reduction in the value of the Society's other investments.

The Receipts and Payments Accounts for the year show that receipts exceeded payments by £1,831 (2013: £1,572). Receipts from members and supporters were comparable with 2013 at £20,533 (£20,582 in the previous year). Total receipts in the year including the £8,000 transfer from the COIF Investment account amounted to £43,340 (2013: £37,439).

Total expenditure was £41,509, compared with £35,867 in the previous year when two issues of the *London Bird Report* were published. The increase was mainly due to late invoicing for mailing of journals in the previous year, the Society's contribution of £5,000 towards the commercial publication of "The Birds of London" by Andrew Self, and the digitisation of old records at a cost of £2,555.

Reserves Policy

The Society's unrestricted general funds can be regarded as expendable endowment since they are invested to provide a regular source of income as well as capital growth, over time.

Statement of Trustees' Responsibilities

The trustees are responsible for preparing the Trustees' Annual Report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

The law applicable to charities in England & Wales requires the trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charity and of the incoming resources and application of resources of the charity for that period. In preparing these financial statements, the trustees are required to:

a) select suitable accounting policies and apply them consistently;
b) observe the methods and principles in the Charities SORP;
c) make judgments and accounting estimates that are reasonable and prudent;
d) state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements.
e) prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in operation

The trustees are responsible for keeping sufficient accounting records that disclose with reasonable accuracy at any time the financial position of the charity and enable them to ensure that the financial statements comply with the Charities Act 2011, the Charity (Accounts and Reports) Regulations 2008 and the provisions of the trust deed. They are also responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

LONDON NATURAL HISTORY SOCIETY

(Charity Registered Number - 206228)

INDEPENDENT EXAMINER'S REPORT TO THE TRUSTEES OF
LONDON NATURAL HISTORY SOCIETY

I report on the financial statements of the charity for the year ended 30 June 2014 as set out on pages 3 to 5.

This report is made solely to the charity's trustees, as a body, in accordance with section 145 Charities Act 2011. My work has been undertaken so that I might state to the charity's trustees those matters I am required to state to them in this report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity and the charity's members as a body, for this report, or for the opinions I have formed.

Respective responsibilities of Trustees and Examiner

The charity's trustees are responsible for the preparation of financial statements. The charity's trustees consider that an audit is not required for the year under section 144(2) of the Charities Act 2011 ('The 2011 Act') and that an independent examination is needed.

It is my responsibility to:

- examine the financial statements under section 145 of the 2011 Act;
- to follow the procedures laid down in the General Directions given by the Charity Commissioners under section 145(5)(b) of the 2011 Act; and
- to state where particular matters have come to my attention.

Basis of Independent Examiner's Report

My examination was carried out in accordance with the General Directions given by the Charity Commissioners. An examination includes a review of the accounting records kept by the charity and a comparison of the financial statements presented with those records. It also includes consideration of any unusual items or disclosures in the financial statements and seeks explanations from you as trustees concerning any such matters. The procedures undertaken do not provide all the evidence that would be required in an audit, and consequently no opinion is given as to whether the financial statements present a 'true and fair view' and the report is limited to those matters set out in the statement below.

Independent Examiner's Statement

In connection with my examination, no matter has come to my attention:

(a) which gives me reasonable cause to believe that in any material respect the requirements:
  - to keep accounting records in accordance with Section 130 of the 2011 Act; and
  - to prepare financial statements which accord with the accounting records and comply with the accounting requirements of the 2011 Act have not been met; or

(b) to which, in my opinion, attention should be drawn in order to enable proper understanding of the financial statements to be reached.

J L Meyer FCA
Meyer Williams
Chartered Accountants
Stag House, Old London Road
Hertford, Herts, SG13 7LA

Date: 10 November 2014

LONDON NATURAL HISTORY SOCIETY

STATEMENT OF ASSETS AND LIABILITIES

As at 30th June 2014

	Notes	2014 £	2013 £
Monetary Assets			
Bank Balances:			
National Westminster current account		**130**	346
National Westminster reserve account		**12,337**	10,300
Cash in hand		**456**	446
		12,923	11,092
Investment Assets			
M&G Charibond		**132,109**	135,107
COIF Fixed Interest Fund		**155,173**	154,943
COIF Charities Deposit Fund		**39,465**	47,465
		326,747	337,515
Net Assets		**£339,670**	£348,607

Approved on behalf of the Trustees on 6 November 2014
H Baker - President
M J West - Treasurer

LONDON NATURAL HISTORY SOCIETY

RECEIPTS AND PAYMENTS ACCOUNT
For the year ended 30th June 2014

RECEIPTS		2014		2013
	£	£	£	£
Receipts from Members and Supporters:				
Subscriptions		16,014		16,193
Donations and other income		896		641
Legacies		-		290
Tax recovered on Subscriptions and Donations under Gift Aid		3,323		3,458
Reading Circle receipts		98		-
London Bird Club - Meeting entry fees		202		-
		20,533		20,582
Sales:				
Journals		717		808
"Atlas of Breeding Birds of the London Area"		16		-
Other publications		17		8
Merchandise		5		15
Sales of surplus Library stock		246		-
Other income:				
Sundry receipt		37		-
		1,038		831
Investment income:				
Charities Fixed Interest Fund	6,682		8,716	
Charities Deposit Fund Interest	132		353	
Income from M&G Charibond	6,937		6,937	
Bank Deposit Account Interest	6		6	
Interest on Gift Aid tax recovered	12		14	
		13,769		16,026
Receipts Subtotal		35,340		37,439
Disposal of COIF investment		8,000		-
Total Receipts		43,340		37,439
Less: Total Payments (Page 5)		(41,509)		(35,867)
Net Receipts for the year		1,831		1,572
Cash at Bank and in Hand as at 1st July 2013		11,092		9,520
Cash at Bank and in Hand as at 30th June 2014		£12,923		£11,092

LONDON NATURAL HISTORY SOCIETY

RECEIPTS AND PAYMENTS ACCOUNT (Continued)

For the year ended 30th June 2014

PAYMENTS		2014		2013
	£	£	£	£
Meeting Costs, Sectional & General Expenditure:				
Hire of Halls and Rooms	882		958	
Lecturers' Fees and Expenses, Sectional Expenses etc.	658		876	
Reading Circle Journals	169		-	
Postage and Telephone	343		202	
Stationery	103		110	
Services	271		257	
Independent Examiners' Fees	1,560		1,560	
Insurance	1,542		1,468	
Honorarium and Expense Allowances	123		127	
Bank charges	122		57	
		5,773		5,615
Publications:				
Printing and Expenses:				
London Naturalist No. 91	-		7,329	
London Naturalist No. 92	7,109		-	
London Bird Report 2009	-		3,945	
London Bird Report 2010	-		4,336	
London Bird Report 2011	4,071		-	
Contribution towards "The Birds of London" book	5,000		-	
		16,180		15,610
Programme	625		615	
Bulletin and Newsletters	3,532		4,083	
Mailing	10,310		6,532	
		14,467		11,230
Publications/Journal Sales expenditure		272		245
Library		2,262		1,285
Digitisation of old records		2,555		-
Asset and investment purchases:				
Purchase of Library Cupboards		-		1,882
Total Payments for the Year		£41,509		£35,867

OFFICIAL AND SECTIONAL REPORTS FOR 2014

CONSERVATION

DAVID BEVAN, CONSERVATION OFFICER

In my last conservation report (for 2013), I lamented the sad demise of the London Biodiversity Partnership (LBP) and touched upon some of its many achievements. This loss marked the end of a significant era for nature conservation in London.

Since its founding in 1996, most conservation activity in the capital had been underpinned and supported by LBP in different ways and its absence is now being keenly felt. At the time of writing I am not aware of any serious plans to re-launch the Partnership, but another London-wide initiative is now underway that could, potentially, provide positive benefits. The brainchild of Daniel Raven-Ellison, who describes himself as a “guerrilla geographer”, this proposes that London should become the world's first "National Park City". Based on the principles that governed the setting up and running of England's National Parks, Daniel believes that it should be possible to apply the same principles to “the inspirational and distinctive urban landscape” of London. The project was launched at the Southbank Centre on February 24th, 2015 under the catchy title of “Reimagine London: What if we made London a National Park?” The event attracted a large and refreshingly young audience and some high profile speakers. Those I spoke to were enthusiastic about the proposals and it will be interesting to see if, and how, this ambitious initiative is developed.

London continues to face a range of challenges that impact not only on its human inhabitants but also on its wild places. The current population of 8.6 million is predicted to expand to 10 million by 2030. As a consequence, the housing crisis continues to escalate and transport congestion, with its associated pollution, is getting worse. Add to this the negative impact of climate change on central London's “heat island” and the situation becomes all too apparent. In the face of all this, the city's wild places have become increasingly important, not only for the wildlife they support but also as oases of tranquillity and refreshment for hard-pressed Londoners. More than 1,570 such sites have now been identified in Greater London and are known by the rather unfortunate acronym of SINCs (Sites of Importance for Nature Conservation). In my own borough of Haringey we have 60 such sites, ranging from fragments of ancient woodland to tracts of railway embankment and small churchyards. Together with parks and gardens, they form a rich tapestry of green spaces but, as I mentioned in last year's report, many are now coming under increasing threat. A high proportion are owned and managed by the London boroughs, which are now suffering from significant funding reductions. Furthermore, there is now an increasing number of proposals for tower blocks to be built adjacent to SINCs, with little knowledge of their possible impact. Many such sites have been inadequately surveyed in the past and under-resourced borough conservation officers (where they still survive) are always pleased to receive site-based biological records. The London Flora Project will eventually include detailed botanical surveys of most of

London's SINCs and is already uncovering new and unexpected species. In Haringey, coppice work on two of our most important sites, Queen's Wood and Coldfall Wood, continued during the early months of 2014. The work was carried out for the Council by Ian Loasby of Riverwood Coppice, a traditional craft business that is restoring coppiced woodlands in London and Hertfordshire. They were ably assisted by Roy, a Suffolk Punch Heavy Horse (supplied by Hawthorn Heavy Horses), who was able to drag out the large hornbeam trunks with a minimum of damage to the woodland floor. Two ancient pear trees have long been known from one of these coppices cut in Queen's Wood. Their exact identity was unknown, as they never flowered. As a direct consequence of the extra light following the coppice cut, one of the trees flowered and fruited profusely in 2015 and could then be accurately identified as a true wild pear *Pyrus pyraster*. In the opinion of the late Oliver Rackham, this is “now one of the rarest British plants”.

In September 2014, I visited Totteridge Fields in Barnet together with other members of the Botany Section as part of our survey work for the London Flora Project. This reserve (another SINC) is managed by the London Wildlife Trust and supports a rich flora, which includes great burnet *Sanguisorba officinalis*, devil's-bit scabious *Succisa pratensis* and sneezewort *Achillea ptarmica*. These are all now scarce and declining plants in London and there were concerns about their future following the cessation of regular grazing some years ago. We were therefore very pleased to observe a small group of longhorn cattle feeding on the invading bramble around the edges of the reserve. Subsequent inquiries confirmed that a new grazing regime had recently been put in place - to the great advantage of the flora and fauna.

Professor David Goode's long-awaited New Naturalist volume, *Nature in Towns and Cities*, was published in October 2014 with an enjoyable launch event at LWTs Camley Street reserve. Largely focussing on London, this splendid book describes, among many other things, the slow evolution of the urban nature conservation movement in the capital and elsewhere. It includes many references to the work of the LNHS and is reviewed on page 123 of this journal.

I am grateful to Ian Holt, Haringey Council's Principal Commissioning Officer (Nature Conservation) for information and discussions about Haringey's SINCs.

BOTANY

DAVID BEVAN, CHAIRMAN AND SARAH GRAHAM-BROWN, SECRETARY

At our AGM on 11 November 2014, Brenda Harold addressed us on ‘Field Botany online’.

Brenda began by telling us something of her own background and explained how the course came about. She had always been fascinated by plants and did a PhD on the genetics of *Potentilla*. She later became the BSBI referee for this genus. After her retirement from an academic career, she worked for the Herts and Middlesex Wildlife Trust with a team of volunteers who carried out botanical site surveys which she checked before they went to county recorders. She found that the participants became discouraged and frustrated by the short courses then available. These failed to provide any continuity and lacked a coherent framework - as for example, learning plants by their families. As there are currently no undergraduate degree courses in botany, it seemed appropriate to develop a plant identification course for beginners in serious botany.

The course

In 2011, Brenda wrote the Field Botany course and trialled it out on the Herts and Middlesex Wildlife Trust staff and volunteers. The Trust was very supportive and the material was checked out by experienced surveyors. She used her own photographs and drawings, so there were no copyright issues. It was designed for those who might know a lot of plants but who found descriptions in the literature incomprehensible. Such students often looked only at flowers, not leaves or fruits, and they did not know how to use botanical keys. The course is not marketed on a commercial basis but there is a course charge of £60, which encourages commitment.

The course is supported by BSBI, and the Field Studies Council does the administration, while participating tutors sign off on student's work to provide quality assurance. The material is delivered to students by email and there is a course website.

Methodology/aims

The intended learning outcomes included improved observational skills, familiarity with terminology, plant families and key diagnostic features. Students would also become confident in using a flora and develop the critical faculty necessary for accurate ID.

The course was divided into 15 units, one per fortnight, covering classification, names, terminology, keys, main families in order of flowering, and voucher specimens. The aim is to cover common plants, not rarities so, for example, orchids are only covered at the end of the course. The material can be downloaded and students are encouraged to be active in finding and examining plants. Students learn the importance of listing diagnostic features and learning species/family names. Questions are set for learning, not for assessment, but are corrected by experienced botanists.

The course was run in Hertfordshire in 2011, and in 2012 it went national. This involved broadening the range of species, including ruderals, that are easy to find, to cover different regions of the country. The aim is to complete the course, usually within two years, and receive the certificate.

People involved

Tutor groups are set up with tutors in the same geographical area as the students so that they can respond to specific local conditions, including differences in climate. The organisers have had to reject applicants if no tutors are available in the area. They are, for example, looking for more tutors in the London area. Brenda stressed the importance of making links between keen beginners and local experts which could be encouraged by more online networking and blogging. She noted that the current website is felt to be too complex and needs further work.

In the UK and Ireland the 2014 total number of tutors (50) and students (134, of whom 34 dropped out) had almost doubled since 2013. Of the students enrolled, 57 completed the course in 2014.

Following a lively question and answer session, Brenda was warmly thanked for her most instructive talk.

Indoor meetings

2014 began with our old favourite Best Botanical Photographs in January. Unfortunately the popular Botanical Quiz had to be postponed due to industrial action on the tube and was rescheduled for 25 November. Peter Howarth ran a bryophyte identification workshop at the end of February. No further indoor meetings were held in the Spring and Summer.

Field meetings

The outdoor meetings, organised as always with great efficiency by George Hounsome, this year focused effort on recording for the London Flora Project. Peter Howarth led a bryophyte meeting for us at the end of February. Between March and May there were recording meetings in Sydenham, Willesden, Streatham, Putney Heath, Abney Park Cemetery, Springfield Park, Honor Oak, Hackney Marshes and Richmond Park. In the summer there were further recording visits to Brondesbury, Forest Hill, Chafford Hundred, the Kew section of the Thames footpath, Hampstead (excluding the Heath) and Wandsworth Common. Between June and July we visited Tottenham Marsh, Blackheath, Barnehurst and Elmstead Woods. There was a visit to Battersea Park Lake for water plants in August.

In addition, in May Sven Seiffert and George Hounsome revisited London Zoo, and in June David Bevan led a joint meeting for the LNHS and the Wild Flower Society to explore Barley-Mow Farm for arable weeds; and he later visited Holmesdale Tunnel above the M25 motorway. John Swindells led his ever-popular "Pot Luck in the East End" in July, but Ken Adams' intended visit to Foulness on July 12th was not possible, so the group looked at a coastal area nearby. Meanwhile, absolute beginners in Botany were invited to explore Hyde Park with Kristoffer Hahn. In the autumn, there were further recording visits to Greenwich, Totteridge Fields, Bermondsey and London Bridge. There was also a Tilbury 'Glasswort Special' led by Ken Adams and a visit to Bedfords Park for lichens, led by our new Lichens Recorder, John Skinner. The 24th consecutive annual Haringey Fungus Foray was again led for us by Ted Tuddenham.

RECORDERS' REPORTS

HIGHER PLANTS

MARK SPENCER

As many of you may have noticed, I have been not been around much the last 18 months or so! I am very sorry if this has left some feeling that the role is not being fully catered for but the demands of my job have significantly increased of late and the underlying condition of my health remains a constraint on my ability to devote more of my energies to the role.

Thankfully, the coordinator system that we have in place for the London Flora Project appears to be working reasonably well and most active recorders for the project appear to be adequately supported; nevertheless, as we get closer to the late stages of the fieldwork there will need to be additional support to ensure the data is transferred to either GiGL or the relevant adjoining BSBI vice county recorder. We have made good progress on some aspects of migrating large batches of 'historic' data to GiGL and I continue to work with them to get this aspect of the project completed. One area where I have been unable to make any headway (and have not had the capacity to follow up on assistance offered) has been in the adoption of an online recording and project website

- there are very good models for this available so we don't need to invent one anew.

Sadly, I have not been able to complete a full *London Naturalist* Report for this edition or that of 2012; I am painfully aware that this is much missed by many of you. In its current form the report takes at least two/three weeks per year to complete. Similarly, answering general e-mail and letter enquiries takes up a large amount of time too.

I don't wish to dwell on these negative aspects but it is clear that the current situation is unsustainable. I would like to propose that the vascular plant recording role becomes more devolved, in a manner similar to the ornithological section. I suggest we retain the existing 10km square coordinator role and then place an additional tier above that corresponds to the vice-county boundaries. In addition, I propose that the current LNHS_plant_recorder e-mail becomes administered by me and the Surrey, Kent and Essex vcc coordinators. I am aware that this is not a perfect solution and I welcome additional suggestions; I would very much like to discuss this at the Botany AGM with a view to taking a proposal to the Botany Committee for approval.

BRYOPHYTES

PETER HOWARTH

This year has seen a lot of work in South London with the South London Botanical Institute. The institute gained funding to run a project called Mad about Mosses. As part of this project, a number of events and talks have been run exploring many aspects of bryology. As a result new records from a number of locations, including Brockwell Park and St Leonards Churchyard, have been made. Also as result of these events, I received my first bryophyte record from a member of the public.

A survey at Nonsuch Park showed the increase of epiphytes such as *Syntrichia papillosa* and *Cryphea heteromalla*. Other interesting species found included, in the draw down zone of a pond, *Riccia fluitans* and *Aphanorrhegma patens*.

Events continue to be held, including a walk around a very wet Epsom Common, attended by eight people looking at the wide range of mosses and liverworts found there. Also a successful indoor workshop was held at the Natural History Museum looking at microscopic features.

ECOLOGY AND ENTOMOLOGY

MICK MASSIE, CHAIRMAN

2014 will go down as a year of transition for the E & E Section. Several committee members decided to stand down: Gay Carr, Laurence Livermore, Keith Hyatt and Keir Mottram. We thank them for their contribution over the years. We welcome Bill Dykes, who has been elected to the Committee, and Kerrica Kendall will take over as Secretary from 2015. In addition, we also welcome Duncan Sivell of the Natural History Museum who has taken up responsibility as LNHS Diptera Recorder. Diptera is a major area that we have not been able to actively focus on for several years and Duncan brings with him a wealth of expertise and enthusiasm.

Much recording activity is now the subject of national recording schemes and online identification resources. The role of a local recording society, particularly one with complex geographic boundaries like the LNHS, is changing as more and more new naturalists are users of online and smartphone services such as iSpot, Facebook groups such as UK Hoverflies (1100+ members) UK Amphibians and Reptiles (1200+ members) and even UK Conopids with 180 members. In addition, huge worldwide online groups, such as the Hymenopterists Forum, (3000+ members) are instantly available. Attracting potential members to LNHS will require that we can continue to demonstrate how we add value in this interconnected world. Field trips, identification workshops, joint activities with other societies and an active presence on social media are going to be increasingly important, and this is where our focus will lie in the future.

The section again ran a varied selection of field and indoor meetings, as well as taking an extensive part in the society's long-running survey of Bookham Common. Thanks are particularly due to Tristan Bantock, Claudia Watts and Stuart Cole for organising these activities.

Field meetings were generally unaffected by the weather, unlike 2013, and included trips in the west at Oxshott, reptiles at Hounslow Heath, the south at Denbies Hillside, and in the east at Lesnes Abbey and Blackheath. The Blackheath meeting turned up Britain's only mygalomorph *Atypus affinis*, a purse web spider, a third London site for the Coreid *Spathocera dalmanii* associated with sheep's sorrel and the notable beetle *Curculio rubidus* associated with birch. The keenly anticipated trip to the restricted access site at Dawcombe with Surrey Wildlife Trust had to be cancelled due to transport problems. Tristan also set up and runs the highly successful British Bugs website, edits the *Het News* newsletter and runs the national Shieldbug and Allies Recording Scheme.

Claudia added the considerable responsibility of President of the British Entomological and Natural History Society in 2014. The Brad Ashby Memorial Lecture is an annual lecture organised by the British Entomological and Natural History Society and the LNHS. It is the section's responsibility to organise it in odd-numbered years on behalf of our society, so Claudia played a joint role this year by arranging for Professor Jeremy Field to give a fascinating talk on the possible evolution of social behaviour in *Ammophila* sand wasps. A moth identification workshop run by Martin Honey was organised with support from the Angela Marmont Centre at the NHM and was heavily subscribed.

Many thanks also to all members of the section's committee and its long list of recorders for their time and skills that they offer freely to the section and the Society as a whole. We are indebted to all of the leaders and speakers at our meetings for sharing their skills and knowledge that is very much appreciated.

LONDON BIRD CLUB

ANGELA LINNELL, SECRETARY

In August 2014 the Chairman of the LBC, David Darrell-Lambert, resigned on a point of principle. When a member of the LBR Editorial Board was found to have tape-lured a Schedule 1 protected bird species during the breeding season in order to gain photographs of the species, David had felt very strongly that this member of the LBR Board should be asked to resign. This matter was put to the LBR Editorial Board and the LBC Committee and was raised before the LNHS Council. While the LBR Board voted to retain the person in question, six of the eight LBC Committee members who responded to David's email canvassing their opinion had voted that this person be asked to resign rather than just be sent a strongly-worded letter. A sub-committee of the LNHS Council was then put together to decide on the issue and they too decided this individual should be asked to resign. Ultimately, however, the Council decided to just send a strongly-worded letter to this person. So David resigned. This was a great loss both to the LBC but also to the LNHS and the Council are now updating the charity's rules of governance to help avoid such issues arising in the future.

The club is still searching for a Chairman - please let us know if you would like to be considered or you know someone who would.

Neil Anderson, our coach trips organiser, reports on outings in 2014: "In January, Minsmere was very productive with highlights including two tundra bean geese, two perched peregrine, male hen harrier and good views of otter. For the trip in early May to Dungeness, the weather was unsettled but as usual we managed to find a rarity there with black-winged stilt. Wader numbers were low due to high water. Tree sparrows were seen. The trip in late May to Lakenheath was productive for insects and birds. There were good views of cranes, bitterns, kingfisher, many marsh harriers and hobbies, barn owl. A scarce chaser dragonfly and a painted lady butterfly were seen. All were fairly well supported. December's trip to Stodmarsh was cancelled due to extensive works on the reserve, which would have limited our access."

Pete Lambert, our local trips organiser, reports on the field trips arranged around London. "In 2014, I organised thirty-five walks. Five of these were to the following sites which we had not visited recently: Ingrebourne Valley, Bruce Castle Park and Tottenham Cemetery, Tottenham Marshes, Kempton NR and Regent's Park. The other sites we visited were Cheshunt GPs, Tooting Common, Rainham Marshes, Greenwich Peninsula and Ecology Park, Trent Park, Greenwich Park, Brent Reservoir, Hyde Park/Kensington Gardens, Fairlop Waters, Wandsworth Common, Crossness, Totteridge, Beddington Farmlands, Wormwood Scrubs, Alexandra Park, Rye Meads, Ruislip Woods NNR, Two Tree Island, and a car trip to the Isle of Sheppey.

I'd like to thank all the leaders of these walks for giving up their time to do this. I am always on the lookout for new places for walks and new leaders to take people round. Please let me know if you have any suggestions for either."

Kat Duke, our Indoor Meetings Secretary, reports: "The indoor meetings programme continued well this year at The LookOut, or Isis Education Centre, in Hyde Park. January 2014 saw Chris Ward's talk on 'Natural born killers - raptors from the UK and around the world' attract nineteen people and in February David Lindo kindly stepped in at the last minute, when the originally scheduled speaker, Tristan Reid, had to cancel. David's talk, 'Adventures of the Urban Birder', had an audience of eighteen, including three non-members, despite the fact there was a tube strike that day. As usual the season wrapped up with a talk in our London's Finest Birdwatching Sites series, which is held every March as the talks programme comes to a close and people prepare to go out birdwatching over the spring and summer period. Howard Vaughan gave this talk on RSPB Rainham Marshes and attracted thirty people, including around five non-members. In September the new season kicked off with a joint talk from Carol Rawlings and Nathalie Mahieu who delivered a talk called 'London's high fliers - a look at London's urban peregrines' to twenty-five people, including one non-member. Rick and Elis Simpson followed in October to talk about their 'Wader quest' initiative addressing fifteen people including three non-members, one of whom saw the event advertised on the BirdGuides website. Traditionally, the final talk of the year comes from our Chairman, but November 2014 sadly found us without a Chairman and David Darrell-Lambert's traditional educational talk at this time was very much missed. However, Tristan Reid, aka The Inked Naturalist, who was originally booked to speak for us in February, but was unable to make that date at the last minute, stepped in and talked to the sixteen of us after the AGM about his fundraising efforts for the beleaguered birdlife of Turkey in his talk 'Giving my right arm - a very unusual conservation initiative'. This colourful talk brought the year to a close after another successful run.

Overall LBC talk attendance numbers were healthy enough in 2014, though down on the record highs of 2012 and 2013. I have continued to promote the talks as widely as possible via Yahoo message groups and the use of appropriate free online publicity outlets like The Lecture List website, the BirdGuides website events page, The Royal Parks Foundation website and Twitter feed, and through other birding groups like the Marylebone Birdwatching Society, who promote our events in exchange for reciprocation. All these PR activities aim to broaden our audience and spread the LNHS's reach but efforts were hampered somewhat this year in the wake of losing David Darrell-Lambert's proactive social media efforts which saw him, among other activities, publicising the talks via the LBC's own popular Twitter feed which he created and ran. We continue to seek someone who will take over the LBC Twitter feed which has a following that is almost double the entire LNHS membership number. If you can help, please contact us."

Pete Lambert, the chairman of the Editorial Board of the *London Bird Report*, says: "We published the *London Bird Report* for 2012 in August 2014. I'd like to thank all the many people who have helped with the production process, without whom this would not have been possible. If anyone else would like to help with future editions, please let me know."

Andrew Self, the Bird Recorder for London, reports: "This year saw the publication of *The birds of London*, a worthy successor to the 50 year old update of the LNHS publication *The birds of the London area*. There was significant input to the book by a number of people in the London Bird Club and wider LNHS."

Bob Watts, the Chairman of the Recorders Committee, reports: "There were no changes to the recording team this year and the data was completed on time by the recording team which led to the publication of the 2012 LBR on schedule in August 2014. We also submitted records to the Rare Breeding Birds Panel and the Scarce Migrants Report for publication in British birds. The committee now has seven members though one will shortly be stepping down. The membership is representative of the recording area. However, there are still large numbers of non-submitted records for description species, especially from eastern sites such as Rainham Marshes RSPB. Birds of prey feature prominently. Overall, the committee is running smoothly and only needs to meet to consider records and issues every twelve to eighteen months. The increased number of photographed rarities has facilitated rapid decision making."

Ian Woodward, the BTO representative for North London, says that work has continued on the London Bird Atlas. "We are writing up the results of the project and we are expecting the draft species accounts and maps to be sent to London Bird Club committee members for comments in late 2015 or early 2016."

Angela Linnell reports that the LBC Reading Circle has eleven members, and six journals on birdwatching are circulated. New members are always welcome. These journals are circulated for a small subscription: *British Birds*, *Ibis*, *Dutch Birding*, *Irish Birds*, *Scottish Birds* and *Ardea*.

George Kalli, the Treasurer, reports that for the year ended 30th June 2014, that income was £685.82 and expenses were £468.61, leaving a balance of £217.21. Lecturers' fees and expenses were £243 and officers' expenses were £225.61.

Please do contact any of the following for further information or to make suggestions for improvements:

Pete Lambert, Local Field Trips Secretary, (plamb@phonecoop.coop), Kat Duke, Indoor Meetings Secretary (katduke@rocketmail.com) Angela Linnell, LBC Committee Secretary (angela.linnell@phonecoop.coop).

BOOKHAM COMMON SURVEY

See pp 102-108

HAMPSTEAD HEATH SURVEY

No report received

HEMIPTERA

TRISTAN BANTOCK

Following a very wet but mild winter, the spring of 2014 was earlier than usual and the period May-July saw long periods of settled warm and dry weather. These favourable conditions contributed to a generally good year for Hemiptera, with many species experiencing a somewhat advanced season.

Although no species new to Britain were found in the London area during 2014, a record of the leafhopper *Rhopalopyx vitripennis* from Wanstead Flats in August was the second for the British mainland, following the first in Sussex during 2013. This species has been known from Ireland for many years, but was absent from other parts of the British Isles. These two records suggest that the species may be colonising Britain from the continent, where it is widespread.

Records of rarer taxa included *Hallodapus montandoni*, a ground-dwelling plantbug associated with ants that is very uncommon in southern England. Good numbers were recorded by suction-sampling a chalk hillside near Halstead, Kent in July. Another scarce chalk grassland species, the lacebug *Catoplatus fabricii*, was recorded for the third year running at the Warren Farm area of Nonsuch Park, Surrey. This species feeds on oxeye daisy but is much rarer than its host and is extremely uncommon in the London area. Dalman's leatherbug *Spathocera dalmanii* was found at Blackheath, Kent, during a joint LNHS/BENHS field meeting in August. This is another ground-dwelling species, associated with sheep's sorrel in sparsely vegetated habitats and, although expanding its range nationally, is still a decidedly local insect.

Considerable progress has been made with Hemiptera recording at Bookham Common during the last few years and many new species have been added to the lists published by Eric Groves in his accounts of the Heteroptera and Auchenorrhyncha fauna. Two new leafhoppers were recorded in 2014: *Athysanus argentarius*, a formerly scarce coastal species which is now much more widespread, and *Stenocranus fuscovittatus*, an uncommon planthopper found on sedges in fens and wet grassland. A third record of the spectacular *Ledra aurita*, Britain's largest leafhopper, was also very welcome.

The season was undoubtedly favourable for species on the edge of their range in Britain, which are often rather imperfectly adapted to our climate. One such species, the southern green shieldbug *Nezara viridula* undoubtedly had a good year and appeared in large numbers at some sites. Several other recent arrivals were also recorded widely across the London area, in particular the groundbug *Rhyparochromus vulgaris* and the leafhopper *Orientus ishidae*.

LEPIDOPTERA - BUTTERFLIES

See pp 52-62

ODONATA

See pp 46-51

PLANT GALLS

TOMMY ROOT

My 2014 activities have included on-going studies of Camden nature reserves, Bookham Common and the London Natural History Museum wildlife garden.

2014 was my fifth year of gall surveys within Camden reserves. Camden now has 97 gall types caused by 93 species - the difference of four being as a result of different wasp-induced galls within the two phases of the oak gall wasp life cycle. Of note was my first sighting of *Andricus gemmeus* - an asexual phase gall on *Quercus robur*. I found this in two Camden reserves: Belsize Woods LNR and Westbere Copse LNR. This gall arises from a dormant bud and consists of a cluster of cone-shaped bumps, with a diameter of around 3-4 mm. This species was first recorded in Colchester in 2008 by Jerry Bowden, the Essex plant galls recorder. The sexual phase of this species occurs on the buds and trunk of *Q. cerris* and has yet to be recorded in the UK (Redfern & Shirley (2011)). I will endeavour to search for the sexual phase of this gall in 2015.

This was my third year of surveying LNHS study site Bookham Common. The species count is now 80 species, caused by 79 inducing organisms, with 11 galls new to the study. I made a concerted effort to target particular host plants as well as covering most areas. New species of note were:

Puccinia cnici-oleracei - fungal leaf splodges on marsh thistle (a first for me).
Three dipteral galls:
Chirosia grossicauda - on bracken, a leaf roll gall.
Taxomyia taxi - an artichoke gall on yew. A fairly common species, however this was the first season I had access to yew - thanks to the selective clearance of Bookham's scrub.
Urophora cardui - a bulbous swelling on creeping thistle.

This was my first record of *U. cardui* in the LNHS recording area. I had only seen this species previously in Cambridgeshire and Dorset although I have been reliably informed by Alan Rix (LNHS & BPGS) that it occurs in some numbers in the Ruislip area. I welcome records of this species from LNHS members.

I surveyed the LNHM garden in July - my second survey for this site. The species count for the two years is now at 25, although this may rise when I include previous surveys by others and with the verification of a possible bedstraw gall (species to be confirmed).

Thanks to LNHS member Chris Rose for the record of *Taphrina alni* found beside the River Cray, LB Bexley. *T. alni* is a fungal agent that induces tongue-like protrusions galls on alder cones. This gall is described (Redfern & Shirley (2011)) as being recorded in many parts of the UK since 1999 - prior to this it was only known in Cornwall in the 1940s. I observed *T. alni* at the Camley Street Natural Park in 2013. Mick Massie reported its occurrence at Crane Park Island, LB Richmond, in 2012. I gratefully welcome all records of *T. alni* from within the LNHS study area.

References

Redfern, M. & Shirley, P. 2011. *British Plant Galls*. Ed. 2. Field Studies Council, Shropshire.

ARACHNIDA - SPIDERS AND PSEUDOSCORPIONS

EDWARD MILNER

In London and Middlesex this year (November 2013 to October 2014) 146 spp. were recorded, fewer than last year but more than in the previous three years (2013: 195 spp., 2012: 126 spp., 2011: 138 spp. and 2010: 140 spp.). The only new record was one as yet unidentified exotic spider found in the flower meadow at Victoria Park. Although the weather was better this summer the spider fauna was disappointing, possibly influenced by the very wet spring.

Spider forays

The Society's annual spider foray on 22 June visited Staines Moor; this was disappointing - it is clearly an interesting and extensive site but (as I have indicated in my report of the foray which is due in the next Newsletter), it's possible that prolonged flooding of the low-lying Moor may have been responsible.

Your Recorder led several other spider forays jointly for other groups; Bow Beasties (junior naturalists) at Tower Hamlets Cemetery Park on 20 September, and a 'bug hunt' for Young Gardeners at Bounds Green allotments on 5 June. Unfortunately due to ill health I had to cancel a spider foray to Mitcham Common for the local group there but we hope to rearrange for next summer.

On 25 March I attended the Westminster Biodiversity Partnership meeting at Regents Park at which I was able to remind participants of the need to pay particular attention to the conservation of invertebrates. On 18 October I ran a one-day spider ID course for LB Brent at Roe Green Centre, with a short excursion to Mason's Field (Fryent Country Park), which inspired the idea of a spider foray next year to the Country Park starting at Barn Hill.

Spider names

Perhaps the major spider event this year has been the renaming of several common species (Merrett *et al.* (2014)), in particular the ubiquitous genus *Lepthyphantes* which has been split into several genera, in particular *Tenuiphantes* (*T. tenuis*, *T. flavipes*, *T. zimmermanni* and *T. tenebricola*) and *Palludiphantes* (*P. ericaeus* and *P. pallidus*). The spider previously known as *Megalepthyphantes collinus australis* is now known simply as *Megalepthyphantes* sp. and awaits a published description. Some common tangle-web spiders have also changed their names, for example the common *Theridion sisyphium* is now called *Phylloneta sisyphia*.

Trapping

Pitfall trapping has been continued at long-term sites in Mile End Park, Victoria Park and Tower Hamlets Cemetery, and has been operating since March at Pinkham Way (North Circular Road) a site threatened by developers. A project to assess potential acid grassland sites on Tooting Common will be undertaken during the first half of 2015 and this will involve both pitfall trapping and sweep-netting.

New and Interesting Records

Specimens of *Meta bourneti* were discovered in the cellars at Hampton Court Palace by Nick Garbutt to go with the two previous records reported last year. I am still trying to get permission to visit the icehouse at Kenwood House but so far without success. The single new record was an alien Thomisid of a genus near *Camarucus* swept from tall herbs in the sown wildflower meadow at Victoria Park in August. The specimen was a sub-adult and not identifiable to the species.

Other finds of note are increasing numbers of a *Megalepthyphantes* sp., previously known as *M. collinus australis*, which was found at two new sites: Roe Green and Mason's Field (both Fryent Country Park) and the pioneer wolf spider *Pardosa agrestis* with both sexes were trapped in a canal-side meadow at the south end of Mile End Park about half a mile south of the only previous site.

Several external parasites on spiders have been collected this year and await identification. Two specimens of parasites from small Linyphiidae have been collected and were both *Acrodactyla degener*.

Talks etc

As Spider recorder I have tried to encourage an interest in spiders among the general public as well as promoting the conservation of invertebrates generally and I remain a member of the voluntary Ecology Advisory Forum at Mile End Park.

References

MERRETT, P., RUSSELL-SMITH, A. & HARVEY, P. 2014. A revised check list of British spiders. *Arachnology* **16** (4): 134-144.

AMPHIBIANS AND REPTILES

TOM LANGTON

I am now able to begin exploring Epping Forest properly, having not left Parliament Hill and Hampstead Heath behind completely as a local stomping ground, as my brother is now living there. Now based just to the south of Hollow Ponds close to the south tip of

Epping Forest, it is remarkable to appreciate just how large and important the quality of woodland is across the forest. It has taken us six months just to gain an initial very basic view of the extensive tracts of habitat up to the M25 that you can walk almost entirely in habitat, given the odd road crossing. It really must be one of the most important habitat areas in the south east of England and represents a huge challenge to the City of London managers.

Potential for amphibians and reptiles based upon space availability seems good, however there is a large population of brown rat, at least in the south areas, that I suspect dominate the various natural communities and food chains, both at ground level and low in trees. Locals emptying two large carrier bags of old bread, biscuits, cake, baked beans and basically anything into the edge of Hollow Pond to feed the ducks and geese is a daily occurrence and it must be tons of food a month in the summer, when the rats get their fill. Some of the ponds in the vicinity are overgrown largely or completely while nutrification seems a massive limiting factor on many forest ponds. Terrestrial areas have their own story of limitations - homeless people camping, meeting places for sexual contact, pit-bull dog walking zones etc. but away from the near-road environment there are delightful habitats including beech forest without rubbish, in which (apart from the ever noticeable distant vehicle and aircraft noise) you could be anywhere. To the north of the forest we have been looking at the various underpasses and overpasses for the M25; the Bell Common Green Bridge and the other much smaller constructions. This would make an excellent study of fragmentation and wildlife connectivity in relation to roads on urban edge, now that the structures have been in place for some time. I saw some evidence of badgers using one of them and this is confirmed by the Highways Agency knowledge. Study of these older structures might be useful in terms of their use by reptiles and amphibians - this is now more possible with advances in camera technology in recent years. At one site building a pond at one side of the road might be possible.

In our new garden there are frogs and toads and the frogs breed in next door's garden pond. The gardens around Epping Forest where rats are controlled, by means including the ample fox and cat populations, look initially to be quite promising. On the recording front, thanks are given to our regular recorders. It is pleasing that Froglife have now generated around 2000 new records from their various projects in recent years, with lots of them coming from the "Great crested newt revisited" project. They have been made available at the GiGL Records Centre.

MAMMALS

CLIVE HERBERT

Little has changed over the last twelve months (November 2013 - October 2014) with relatively few records still being sent in by members and other organisations. Common and widespread species continue to be particularly overlooked. The overall recording situation has also not been helped by my heavy workload over the past year that has periodically taken me out of London.

Species of note during have encompassed ever more regular sightings of seals, including a grey seal in September that reached Canary Wharf, and common seals that were regularly sighted in most months of the recording period from RSPB Rainham Marshes. Also from the Thames at Rainham were an interesting series of harbour porpoise records in the spring, together with an extremely rare sighting of two bottle-nosed dolphins in April.

An American mink from Walthamstow Marshes in January was the third consecutive year that this unwelcome species has been reported. One was also seen at Painshill Lake, adjacent to the River Mole near Cobham, in July, together with a possible mink or otter on the Thames near Richmond in the same month.

A water vole was reported near Denham, Hillingdon in March, together with a brown hare nearby – a species that has suffered a major range contraction in the western half of Greater London in the last twenty years, making this a particularly valuable record.

The excellent series of weasel records from the London Borough of Enfield has continued but this does raise the wider question of “Where are the stoats in London?” No London stoat records were submitted in the past year but reference to the latest Norfolk Bird & Mammal Report for 2013 shows 97 Stoat records against 32 weasel records were submitted in that county, an interesting complete reversal of the London position! There is certainly no shortage of rabbits in London, so please make sure that any stoat sightings (past and future) are reported direct to the recorder in order to ensure that we better understand this apparent anomaly.

HOUSE SPARROWS, WITH PARTICULAR REFERENCE TO LONDON

HELEN BAKER
60, Townfield, Rickmansworth, Herts WD3 7DD

PRESIDENTIAL ADDRESS DELIVERED AFTER THE ANNUAL GENERAL MEETING ON 1 DECEMBER 2014

Introduction

In this presentation I:

- give a brief history of house sparrows *Passer domesticus* in London
- recap on LNHS Survey 1995 to 2003
- say a little about some further surveys on urban house sparrows
- look at colonies of house sparrows in seven tetrads north of Heathrow in the 2014 breeding season
- consider possible reasons for the house sparrows' decline
- give my conclusions and suggest actions that can be taken to help house sparrows.

Brief history of house sparrows in London

In 1898 when WH Hudson wrote his delightful book, *Birds in London* (Hudson 1898) the house sparrow was the characteristic small bird of the innermost part of London. "I was frequently amused, and sometimes teased, by the sight and sound of the everywhere-present multitudinous sparrow." At some parks, such as Battersea, thousands were present at their sunset 'chapel gatherings'. In 1925 Max Nicholson and his brother did their first comprehensive survey of the birds of Kensington Gardens where they counted 2,603 house sparrows. But even then numbers were declining. Homes (1957) and Cramp and Tomlins (1966) recorded a continuing decline and in a paper in the *London Bird Report* for 1988 reporting on the Birds of Small Open Spaces in Inner London survey, I suggested that the downward trend had continued (Baker 1990). Roy Sanderson and colleagues have undertaken repeats of Max Nicholson's survey and in 2000 just eight house sparrows were recorded. In 2005 and 2010 none was seen (Sanderson 2013).

A brief recap on the LNHS survey.

In 1994 I suggested to the then Ornithology Research Committee that the Society should undertake a study of house sparrows in the London Area. A number of seed-eating species were in decline, there was anecdotal evidence that house sparrows were declining in parts of northern Europe, and comments from LNHS members and my own observations led me to believe that they were declining here.

The survey was based on the British Trust for Ornithology's (BTO) Garden Birdwatch but collected more detailed information on house sparrows. This included the maximum number seen together in the garden each week and the number of wing-shivering juveniles. Potential predators (sparrowhawk *Accipiter nisus*, kestrel *Falco tinnunculus*, magpie *Pica*

pica and cat *Felis catus*) were recorded and also feral pigeons *Columba livia*, a potential competitor. A habitat form was sent to all participants.

The Survey ran from March 1995 to October 2003 and has been reported in three papers in the *London Bird Report* (Baker 2005, Baker 2008 and Baker 2014). The Survey showed beyond doubt that house sparrows were declining in the London Area. There were thirty three gardens for which I had enough data to plot the trend in numbers and for which I also had a habitat form. There did not appear to be a correlation between the trend and any of the habitat features or the age of the property. Nor did there appear to be any evidence that any of the predators or the feral pigeons were responsible for the sparrows' decline. In fact in two of the gardens where there was a positive trend, a sparrowhawk was recorded with above average frequency, magpies and up to five feral pigeons were regular visitors and in one garden in particular a cat was recorded most weeks. I concluded that although house sparrows utilise a small area, a single garden was too small a survey unit.

The most interesting things to come out of the Survey were the data on nest sites and in particular wing-shivering juveniles. Only eighteen out of sixty-one people were able to provide any information on nest sites which suggests that there may have been a shortage. What really struck me were the data on wing-shivering juveniles. I assumed that the maximum count of house sparrows seen in a garden at any one time in April represented the local population and that there were equal numbers of males and females. This enabled me to make a crude estimate of the number of breeding pairs. Wing-shivering juveniles are those young which have fledged but are not yet independent. Over the whole period average productivity per year was just 2.1 juveniles a pair. This was before the juveniles became independent and had to fend for themselves which in most species is a time of high mortality. It is most unlikely that this level of productivity would be sufficient to maintain the population. The spread of sightings suggested that there were few second broods and virtually no third broods. Poor productivity for whatever reason is likely to be contributing to the decline in London.

In 2002 while the LNHS survey was in progress, house sparrow was added to the UK's Red Data List because the population showed a decline of 62% in the 22 year period 1977 to 1999 (Gregory *et al*, 2002). The Breeding Bird Survey (BBS) brings the picture more up-to-date giving data for the 1995 to 2012 period. Overall there has been a decline of 2%. However, the figure for the London Government Office Region (GOR) is much worse with a 70% decline since 1995, the year that the LNHS survey started. The decline here is by far the largest in any Region. There have been significant decreases in the South-east of England and the East of England GORs and a smaller decrease in the North-east England GOR. Elsewhere house sparrows have been stable or increasing (Harris *et al* 2014).

The decline in urban sparrow populations is not confined to the UK. Since about 1990, the house sparrow has declined across a considerable part of its European range, particularly, but not exclusively, in the north and west. Summers Smith (2003) refers to dramatic declines in Dublin, Hamburg and Ghent. At that time the population in Paris appeared to be stable but a five year study by CORIF (Centre Ornithologique Ile de France) and the LIPO (Ligue pour la Protection des Oiseaux), commencing in 2003 showed stability in 18 arrondissements but a dramatic crash in two (Malher 2009). Work in Valladolid, Spain has shown a significant decline in mean density between October 2002 and May 2006 (Everaert *et al* 2007). At a meeting of the Working Group on Urban Sparrows (WGUS) in Ghent in November 2014, we heard that in Prague, house sparrows had declined by 82% between 1985-89 and 2002-06. Moreover, the decline is not restricted to urban house sparrows. In Japan the urban sparrow is the Eurasian tree sparrow *P. montanus*. In recent years its population has also declined. I have not seen any studies of house sparrows in cities or towns in those parts of the world where they were introduced. However, there is evidence that house sparrows are continuing to extend their range in some areas, for example in Ethiopia (Gedeon *et al* 2015).

Further surveys on urban house sparrows

Since the house sparrow was added to the UK Red Data List there has been a considerable amount of work on the species, some surveys concentrating on the rural populations but others devoted to urban populations, including London's.

In 2002 the London Biodiversity Partnership ran a survey: *Where have all our Sparrows gone?* (London Biodiversity Partnership House Sparrow Action Group 2003). People were asked to complete a simple form recording the highest number of house sparrows seen at one time in a specific location. A total of 74,862 sparrows was recorded. Tetrad maps showed that they were more common in the outer areas, particularly in the east and in Hillingdon in the west, than in the centre of London. The survey also collected information on where London sparrows nest and the age of the property. According to the returns, 38% of nests were in bushes, shrubs or hedges, 36% in roofs, 11% in ivy or creeper and just 1% in nest boxes (probably reflecting the scarcity of suitable boxes). Sparrow numbers were greatest in houses built between 1919 and 1944 and lowest in those from the 1965 to 1984 period. They were more likely to nest in the building itself in older houses. A follow-up survey in 2012 gave an average count of eight sparrows per sighting, slightly higher than the average count of six in 2002 (London Biodiversity Partnership House Sparrow Action Group 2012).

A considerable amount of work has been undertaken on the house sparrows in Bristol. Bland *et al* (2005) reported that they were largely absent from the city centre and 1930s development and were concentrated in the 1950s estates on the northern and southern edges of the city. They overwhelmingly used dwellings with curved "Double Roman" tiles. Shaw (2009) studied their distribution in relation to human socioeconomic status and found that house sparrows were concentrated in less well-to-do areas. She suggested that houses in these areas were likely to be in a less good state of repair and that the gardens were likely to have a less extensive paved areas and more native vegetation than in the better-to-do areas. Shaw *et al* (2008) reviewed data from other urban areas in the UK and north-west Europe and concluded that house sparrows were disappearing from the more affluent areas and that these were more likely to have undergone changes in habitat structure. The Paris study (Malher 2009) referred to above was consistent with this, showing that sparrows were present at a very low density in the upper-class sectors of the city and at a much higher density in less well-to-do areas. Malher suggested that social changes were responsible for the decline in at least one of the arrondissements where numbers had crashed.

In 2003/04 the BTO organised a house sparrow survey. Volunteers covered a randomly selected 500 x 500 m grid square. A visit was made to map the habitat and this was followed by three visits to plot the locations of house sparrows (chirping males, other

Female house sparrow. (Jonathan Lethbridge)

males, females and birds of unknown sex) and predators (magpie, sparrowhawk and cat).

The data collected were used to test whether house sparrows appeared to actively select certain habitat types during the breeding season and to examine the location of breeding sites in relation to the proximity of certain features (Shaw *et al* 2011) House sparrows consistently selected residential areas with gardens over all other habitat, regardless of the level of urbanisation. The least preferred habitats were buildings with no gardens and also green spaces. It was suggested that the preference of chirping house sparrows for houses with gardens over brownfield sites and allotments, which might provide a rich source of invertebrates for the chicks, may have been related to their small foraging range and the need for nest sites. The strong aversion of nesting house sparrows to greenspace was surprising as they are well used by breeding sparrows in European towns and cities where private gardens are less common. It was suggested that greenspaces in the UK tend to be more open and homogenous in character than elsewhere and this may restrict foraging opportunities. Predators mostly have large ranges in relation to nesting house sparrows so the sparrows could not avoid them.

Kate Vincent undertook a study of house sparrows in Leicester (Vincent 2006). She took a transect from the city centre out to rural gardens and found that house sparrows were rapidly declining in Leicester. Productivity was lowest in the city centre and highest in rural gardens. Chicks were starving in the nest during their first few days of life when they need a high protein diet and this was a particular problem with the second and third broods. Starvation was related to invertebrate (aphid) abundance within 100m of nest-site and those chicks fed on bread and seeds were most likely to die. Sparrows struggled to keep their chicks alive during prolonged spells of cold or wet weather. Chicks close to busy roads with high levels of air pollution from traffic were in poor condition. Vincent suggested that localities with relatively large areas of deciduous shrubs, trees and

Male house sparrow. (Jonathan Lethbridge)

grassland tend to have lower levels of air pollution. Furthermore, spiders, aphids, diptera and beetles were likely to be found in these habitats. Low quality prey such as ants and supplementary feed were more likely to be found where concrete and other hard surfaces predominated.

Vincent's study in Leicester was followed by another in the same area looking at the effect of supplementary feeding of mealworms on reproductive success in garden nesting house sparrows (Peach *et al* 2014). The sparrows nested in boxes. Mealworms were supplied to some and not to others and the habitat within a 70m radius of each nest box was studied. Bower (1999) had shown that during the breeding season most food is collected within 70m of the nest. The provision of mealworms increased clutch size by over 10%, daily chick survival over the nestling period by 59% and the number of young fledged per nesting attempt by 55%. The effects of mealworm provisioning were similar across suburban and rural gardens and across brood sizes. This study suggests that female house sparrows' fecundity may be limited by a shortage of insects during the laying period and confirms the important constraint that invertebrate availability imposes on reproductive success in garden nesting house sparrows. The provision of mealworms did not affect chick body mass prior to fledging which is known to predict post-fledging survival and recruitment but recruitment is also positively related to brood size so it is plausible that feeding enhanced local recruitment.

The Royal Society for the Protection of Birds (RSPB) undertook a replicated supplementary feeding experiment in Greater London in 2005 and 2006 in localities dominated by private housing and domestic gardens (Peach *et al* 2015). Mealworms were provided during the breeding season at 27 out of 54 house sparrow colonies in 2005 and 33 out of 66 colonies in 2006. In both years, three surveys of fledgling and juvenile sparrows were conducted between mid-May and mid-August to get a measure of the reproductive success of each colony. As in the Leicester study, feeding mealworms had a positive impact, increasing the per-capita fledgling counts by an average of 62%. The abundance of territorial male house sparrows was assessed by two surveys conducted between mid-March and mid-May at each colony in 2005, 2006 and 2007. These showed that the larger number of fledglings did not carry through to increased numbers of chirping males in the following season except at the small colonies, i.e. those with under six males in the core area during the first year of the survey. An estimate of the availability of unoccupied potential nest holes at a sample of properties suggested that the abundance of territorial males was not constrained by nest-site availability.

A recent study (Morrison *et al* 2014) used data collected by the BTO Garden BirdWatch (GBW) survey to investigate the role of productivity in house sparrow population trends.

House sparrow numbers peak in gardens towards the end of the breeding season and because of their sedentary nature it is likely that the peak comprises many recently fledged local birds. Comparing the peak count with the pre-breeding numbers can give a measure of annual production. Analysis showed that there was a significant regional variation in annual productivity, with the highest values in Wales and the lowest in the East of England GOR. There was no significant difference between GBW annual productivity in rural and urban/suburban gardens within any region. It should be noted that the London GOR did not include any rural gardens. The four regions with significantly declining house sparrow population trends (including London) all had relatively low (<1.35) juveniles per adult GBW annual productivity. With one exception, productivity was higher in those regions where the population is stable or increasing. Analysis of the Nest Record Scheme data showed a similar regional variation in clutch and brood sizes.

At the 2014 meeting of WGUS in Ghent we were told about work on the declining urban population of tree sparrows in Japan. The researchers found poorer growth of nestlings and lower reproductive success at urban sites than at rural sites and stable isotope analysis suggested low availability of food at the former. This could lead to low efficiency in foraging and/or an unstable food supply for the nestlings.

The WGUS meeting also heard about work which is currently being undertaken at the University of Ghent on the few remaining house sparrow colonies in the city centre which are now becoming isolated from each other. It was suggested that in highly urbanised areas the scatter of suitable habitat reduces the size of home ranges and consequently the nutritional condition of the birds. It was also thought likely that there was little or no gene flow between colonies which may have a negative impact on sparrow numbers.

What key things do these surveys tell us about urban sparrows? They select residential areas with gardens for nesting but tend to avoid the better-to-do areas. There is a serious shortage of good natural food for house sparrow chicks, particularly in the more urban areas but this is not the only problem they face. In the UK, house sparrows are doing better in the North and West than in the South and East.

House sparrows used to be abundant in central London so their serious decline suggests that there may have been some changes to the habitat in the residential areas. A research project (Smith 2010) *London: Garden City?* investigated the changing anatomy of London's private gardens, and the scale of their loss. It found that 24% of London was comprised of private, domestic garden land and a little over half of this was greenspace (lawns, tree canopy and other vegetation). Between 1998-99 and 2006-08 the area of vegetated land had dropped by 12%, in other words an area the size of two and a half Hyde Parks was lost each year. At the same time the area covered by hard surfaces in London's gardens increased by 26% and the amount of lawn decreased by 16%. No doubt this has been an on-going trend over a longer period. This suggests to me that London is becoming a less good city for house sparrows.

House sparrows in seven tetrads north of Heathrow Airport

When I was undertaking field work for the BTO/LNHS Atlases I covered a number of tetrads in Inner London and seven tetrads to the north of Heathrow Airport. In these seven I was immediately struck by the number of house sparrows I was encountering in the residential streets. They were much more in evidence than at home in Rickmansworth or in any of

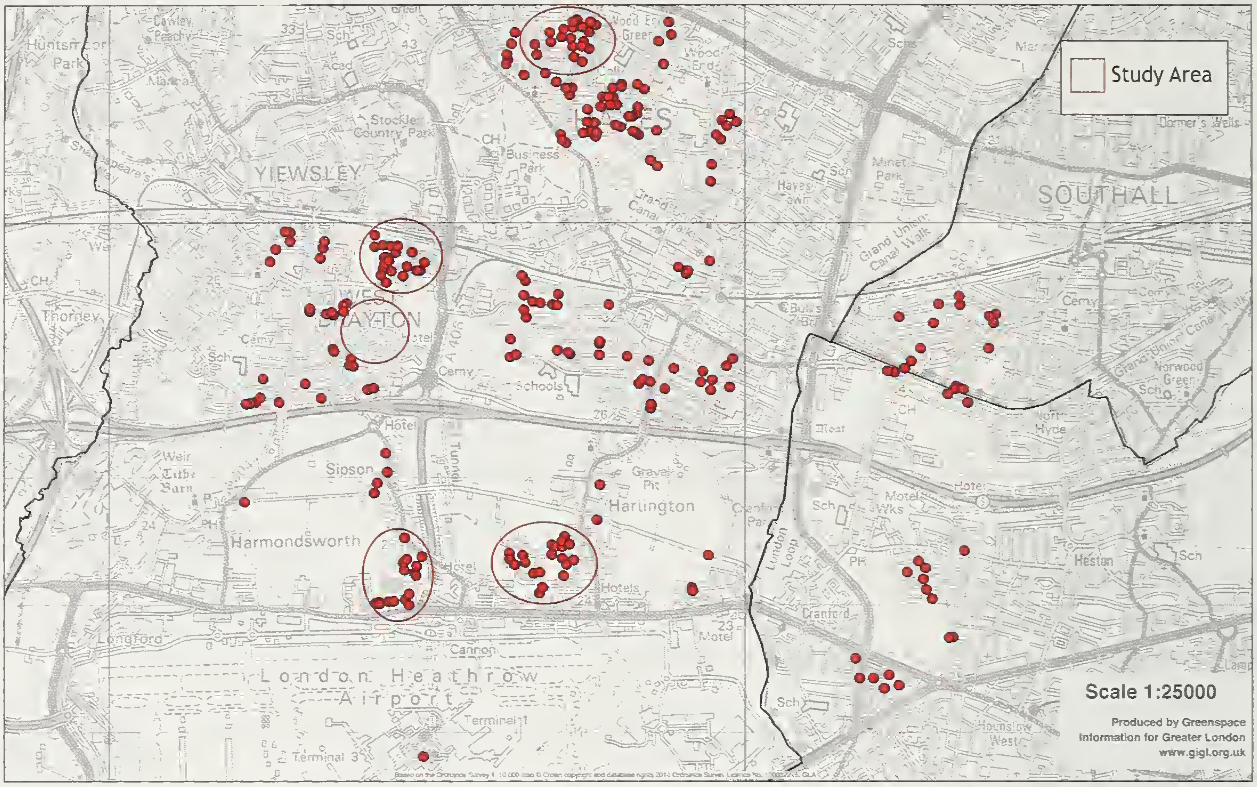


Figure 1: Sparrow colonies north of Heathrow Airport 2014. (Produced by GiGL)

my Inner London Atlas tetrads. Early in 2014 I decided to map the birds in the seven tetrads during the forthcoming breeding season. In April and May I walked along the streets listening and looking for sparrows and marking their location on a map. I did not attempt to count the birds as I did not have the time and, in any case, I did not have access to back gardens. A dot represented at least one, but usually a number of birds. The Map, Figure 1 produced by Maria Longley at Greenspace Information for Greater London (GiGL) from my manuscript, shows the results.

Much of the built up area is residential with shops, schools and other such buildings. There is also quite a lot of industry, particularly along parts of the Grand Union Canal and the railway line. The Bath Road has many hotels and buildings related to the airport as well as business premises. A striking feature is the large number of open spaces. They include some farmland, garden centres, fields taken over for gravel extraction, playing fields, parks and grassy areas in amongst the houses. Some of the land appears to be standing vacant. This large amount of open land is probably the result of uncertainty about an additional runway at Heathrow Airport. Another striking feature is the lack of traffic in the residential areas. The Bath Road and the other major thoroughfares are extremely busy but away from the main roads one enters a system of cul-de-sacs, crescents and roads with entry blocked. There appears to have been a concerted effort to protect the residential areas from the traffic.

There were just a few residential areas where house sparrows appeared to be missing. I decided to look in more detail at four areas, three with particularly good numbers of sparrows and the fourth where sparrows were absent. These are shown on Figure 1. There was not time to carry out the additional work in the fifth, most northerly area shown on the map. Taking account of the recent work on urban sparrows I wanted to concentrate on the area within some 70m of the sites where I had recorded house sparrows and get a feel for the amount of woody vegetation, mown or unmown grass and tilled land, the three habitats which have been identified as being heavily utilized by foraging house sparrows. I could only do a very superficial survey. In August and September I walked round the streets to get a general impression of the houses, front gardens and surrounding areas and I supplemented this by using Google maps. These showed the back gardens and were helpful in determining the presence of trees and shrubs. However, I found it difficult to distinguish lawns from flower beds, and in some cases hard surfaces.

In all four areas there was predominantly a mixture of semi-detached houses and terraces. I noticed that in three of the areas many of the houses had curved roof tiles, possibly the "Double Roman" tiles which were popular with the Bristol sparrows.

Sipson

The front gardens were to a greater or lesser extent paved or concreted. There were relatively few lawns or flower beds and the latter were usually no more than a narrow strip. However, in August there was a good crop of weeds growing through or around many of the hard surfaces. The other striking feature was the considerable number of hedges and trees. The Google map showed trees or bushes running along the bottom of many of the gardens which back onto the park and between the back gardens and the Holiday Inn on Bath Road. This long building forms an excellent buffer between the residential area and the very busy road.

Harlington

Walking along the streets where house sparrows were found it was immediately apparent how much thick vegetation there was. Behind Manor Lane there was a playing field and some rough ground with brambles and bushes along the boundary. House sparrows were busy in these bushes, presumably collecting food, on my breeding season visit. The Crescent backs onto the rough ground and here there is a belt of trees. A number of the gardens in the cul-de-sacs off the west end of West End Lane have long, high, thick privet hedges as well as plenty of trees and bushes in the back gardens. Just beyond the last cul-de-sac lies another substantial open space separated from the gardens by a line of bushes. There were fewer trees and bushes in Pennine Way but the majority of the house sparrows were on the houses which backed onto an area of amenity land and there was a line of bushes between this and the gardens. The Google maps confirmed my impression that this was a residential area rich in trees and bushes, particularly in the vicinity of the main clusters of sparrows.

West Drayton (Lavender Rise/Mulberry Crescent area)

Even from the streets it was apparent that this was an area with a good amount of thick vegetation with trees, bushes and some creepers. Some of the front gardens included well-tended flower beds but many had hard surfaces or a mixture of hard surface and grass. In September quite a good supply of weeds was in evidence. The Google maps showed substantial hedges along the bottoms of the back gardens along much of the west and north sides of Mulberry Road and the south side of Lavender Rise. There was an area of scrubland to the south of Lavender Rise.

West Drayton (Thornton Avenue area) - where House Sparrows were missing
Walking this area it was apparent that many of the front gardens were predominantly hard surfaced but some had lawns and a narrow flower bed. A small number were well-tended but weeds were much in evidence. There were some thick hedges and blocks of good thick vegetation could be seen in some of the back gardens. However, I got the impression that there was rather less tree and bush cover than in the Lavender Rise area. The Google map tended to bear this out though there was a row of trees and/or shrubs between the Blackthorn Avenue back gardens and the Golf Course and between the Almond Road back gardens and the Recreation Ground. One thing that struck me was that while some of the roofs had curved tiles, many are covered in small flat slates. This was the most obvious difference between this area and the other three.

What could I conclude from my work in the seven tetrads north of Heathrow Airport? House sparrows were concentrated in residential streets in not very affluent areas. The streets were quiet and with only light local traffic, so that traffic pollution was presumably at a relatively low level. Gardens were generally not well tended. The house sparrows were in areas with good tree and bush cover and there was a lot of open space nearby. Where there were hedges with bramble or long grass bordering open areas close to the nest sites, sparrows used these areas for foraging during the breeding season.

Possible reasons for the house sparrows' decline

It seems probable that the decline in urban sparrows is driven by different factors from those that caused the decline amongst rural populations. Rural sparrows, along with many other seed-eating farmland species, were affected by changes in farming practice. There was a switch from spring- to autumn-sown cereals, increased use of pesticides and herbicides and a change from haymaking to cutting grass for silage before it had set seed. Modern harvesting methods result in reduced spillage of grain and improved storage facilities make it virtually impossible for birds to get access to stored grain. These changes have reduced the availability of both seeds for the adults and invertebrates which are required by the young.

The situation in urban areas is much more complex and almost certainly a number of factors are involved, these probably varying from place to place. The steep decline in London in the early part of the last century was caused by the replacement of the horse by the internal combustion engine. House sparrows had benefitted greatly from cereal spilt from nosebags and from undigested seed in horse droppings. There was therefore a reduced food supply for the adults.

What might be causing the decline in London now? We have already seen that a lack of invertebrate food for the chicks is a problem and this could lead to a decline in the population, but this does not appear to be the only factor. Is it possible that adults are also finding insufficient food? In Baker (2005) I suggested that a shortage of food for the adults, at any rate outside the breeding season, was unlikely to be a problem. A good variety of food was made available throughout the year in most of the gardens covered by the LNHS survey but sparrows had still disappeared. Moreover, a flock would visit a feeding station, settle in the bushes for a while before departing, presumably to another feeding station, leaving ample food uneaten. However in the RSPB London feeding experiment (Peach *et al* 2015) while the provision of mealworms boosted the number of juveniles produced, it was only the small colonies where there was an increase in the number of males in the following year. Also, the second Leicester study (Peach *et al* 2014) showed that when mealworms were provided during the laying period, clutch size increased. This suggests that the females' diet had been inadequate. So, some adults may be experiencing a shortage of food and, even if they were getting enough to live on, it may not have been of sufficient quality during lead-up to the breeding season

Urban house sparrows sometimes have to contend with large numbers of pigeons. The London BBS data show that during the period 1995 to 2012 feral pigeons have actually declined by 23% but woodpigeons *Columba palumbus* have increased by 55% and collared doves *Streptopelia decaocto* by 15%. Woodpigeons are increasingly coming into gardens to feed. Sparrows need to eat little and often but pigeons, given the chance, will eat a substantial meal in one sitting. This means that a few pigeons can quickly clear food that has been put on the ground. Furthermore, while feral pigeons definitely prefer to have their feet on the ground or some other solid surface, woodpigeons are surprisingly agile and some can compete with sparrows on hanging feeders. Comments that I received from participants during the course of the LNHS Survey show that the presence of pigeons may stop people from putting out food. So, one way or another, the presence of pigeons can certainly reduce the quantity of food available to other birds and this could have an impact on house sparrows.

I would also suggest that newly independent juveniles may struggle to find enough to eat. If they are competing with adults at feeders they will be at the bottom of the pecking order. Alternatively if they flock together they may have difficulty finding sufficiently good food supplies. In my experience from the 1980s and 1990s newly independent birds are like human teenagers and can eat a huge amount of food. Are urban house sparrows suffering increased mortality at this time and is this why supplementary feeding in the two mealworm experiments did not lead to an increase in the adult population?

It has been suggested that predation by sparrowhawks, whose colonisation of urban areas in the 1980s coincided with the big decline in urban house sparrows, was the key cause of the decline (Bell *et al* 2010). Certainly of the 32 sparrowhawk prey items identified in the LNHS survey, 14 were house sparrows. In his comprehensive book *Bird Populations*, Newton (2013) points out that while the increase in numbers of a predator may coincide with the decrease in a potential prey species, it does not necessarily imply that the predator is responsible for the decline. He refers to the sparrowhawk/house sparrow case and points out that there were other changes taking place in cities at that time. There was a big reduction in "brownfield" sites and garden areas were reduced. These changes would have led to a reduction in food supply, both seeds for the adults and invertebrates for the chicks. Newton concludes that the role of sparrowhawk predation in house sparrow declines remains unresolved and we cannot as yet class it as significant or insignificant. The presence of sparrowhawks may have had an indirect detrimental impact on sparrows. Some small birds are not stocking up with food as well as they used to in winter because a heavy bird is less manoeuverable and more at risk of predation than a lighter one. By trying to balance agility with enough food to survive the night, it is possible that more succumb in severe weather.

Magpies and other corvids take young birds and eggs from the nest. Furthermore, I have seen magpies take young starlings *Sturnus vulgaris* that are less streetwise than

House sparrow bathing. (Jonathan Lethbridge)

their siblings in their early days out of the nest so they could certainly take young sparrows. The London BBS shows that magpies have increased by 28% and carrion crows *Corvus corone* by 52% between 1995 and 2012. It is unlikely that either are major predators of house sparrow nests in buildings because they are not easy to access. However, I have seen magpies hanging around active nests. Their presence could cause the adults to delay food deliveries and they could take the young when they fledge or shortly after. While I think it most unlikely that the increase in magpies and other corvids in urban areas has caused the decline in house sparrows, I suspect they could have some impact.

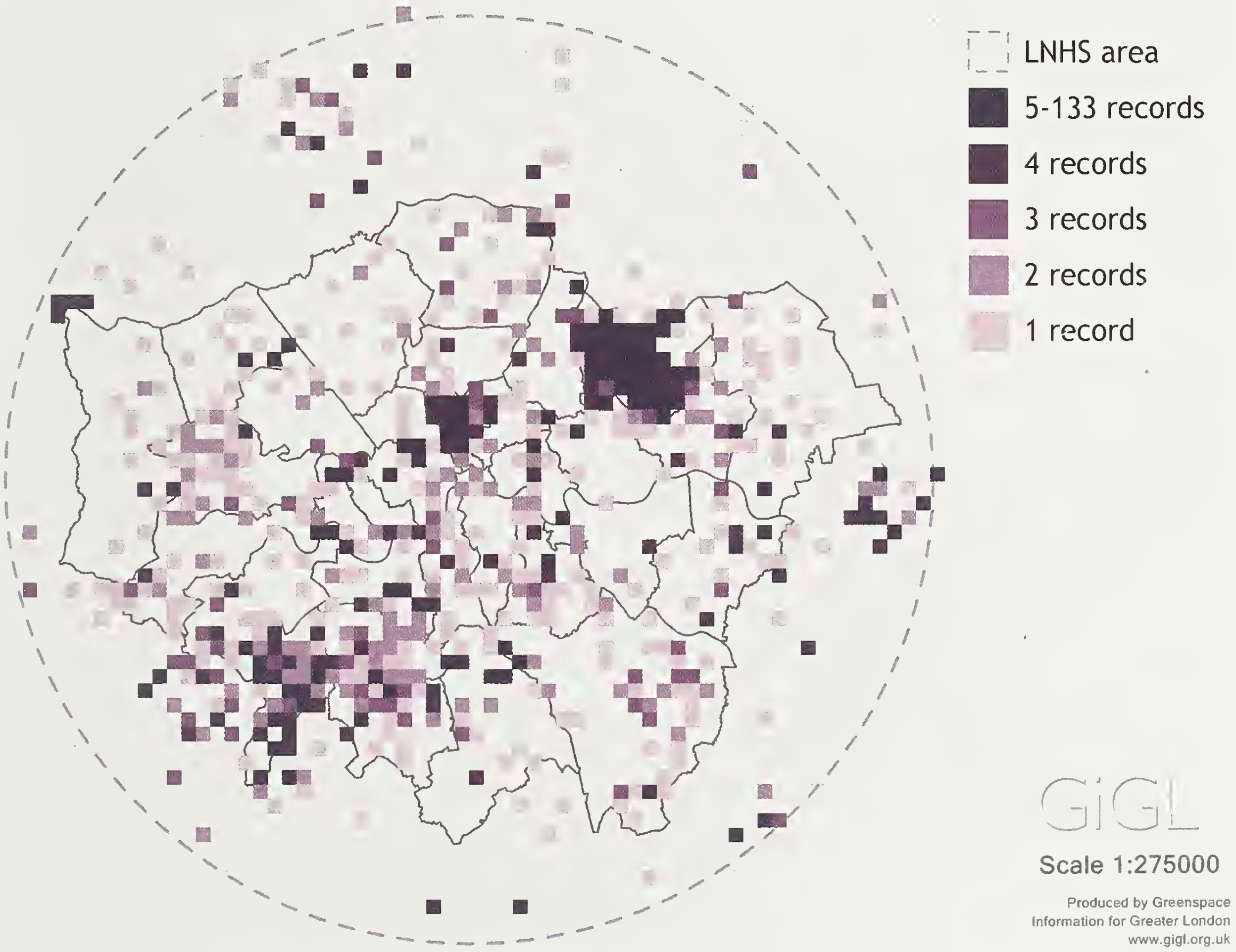
Cats also predate house sparrows. Thomas *et al* (2012) reported on a study using data on prey returned home by pet cats in Reading and concluded that predation rates could significantly reduce the size of local bird populations for common urban species, including the house sparrow. This suggests that cat predation is likely to have an impact on house sparrow numbers, though it is most unlikely to have caused their decline.

Shortage of nest sites in close proximity to good food sources seems likely to be a factor in the decline. The supply of holes in buildings is decreasing. Many new buildings and old buildings which have been renovated or have undergone roof insulation provide no nesting opportunities. Houses with plastic eaves may be less accommodating than those with wooden eaves which may rot and provide entrance holes as they age. Holes in buildings are prime house sparrow nest sites. Nests in hedges and creepers are more vulnerable to predation by magpies and others and are possibly less productive now than they were in the past. It seems possible that there is a shortage of good nest sites in close proximity to good feeding sites. It would be interesting to know what happens to a sparrow colony if their nest holes are lost. I am not aware of any study investigating this but I suspect the birds stay in the vicinity, possibly using poorer nest sites where they are unlikely to breed successfully. Over time such a colony would dwindle. A mismatch between good nesting sites and areas with a good, nutritious food supply for adults and chicks may well be a significant problem.

Changes in garden design have probably had an impact on the house sparrow population. In her *London: Garden City?* study, Smith (2010) drew attention to the reduction in vegetated land in London gardens and the increase in hard surfaces. This is likely to have had an adverse effect on sparrows, reducing the natural food available to them and particularly the invertebrate food for the chicks. It may also have reduced the amount of cover making it more difficult for them to hide from predators. The current fashion in garden design with labour saving devices such as artificial lawns and decking and the emphasis on tidiness, particularly in the better-to-do areas, is likely to have been detrimental.

Pollution may also be a factor. The air quality in London and many other urban areas is bad and this impacts on human health, particularly in children. Laundon (2012), in his paper on lichens in the City of London, said that the area within the Square Mile experiences some of the worst air quality in the UK and south-east England as a whole is affected by pollutants, particularly fine particulates which originate from Continental Europe. The tiny particulates, many emitted by the exhausts of vehicles run on diesel, appear to be a particular problem. According to COMEAP (2010), using 2008 data they were associated with an effect on mortality equivalent to nearly 29,000 deaths at typical ages. This was estimated as a greater burden than mortality impacts of environmental tobacco smoke or traffic accidents. While nitrogen dioxide which these vehicles also

Sparrow records 2004–2009. (Produced by GiGL)



Scale 1:275000

Produced by Greenspace
Information for Greater London
www.gigl.org.uk

Based on the Ordnance Survey 1. 10 000 map © Crown copyright and database rights 2014 Ordnance Survey Licence No. 100032216 GLA emit may be a marker for the effects of other traffic-related pollutants, evidence is growing that it does impact adversely on health (COMEAP 2015). Pollution from cars presumably accumulates at a low level above the ground. How these pollutants affect house sparrows is not known. However, sparrows have a preference for feeding on or close to the ground and I often saw them in front gardens, so they are likely to be exposed to pollutants in the same way as children. It is possible that these pollutants have a direct adverse affect on sparrows. They may also play a part in reducing the supply of invertebrates. In the Heathrow tetrads there were very few house sparrows by the main roads and Vincent (2006) found that, in Leicester, chicks close to busy roads with a high level of air pollution from traffic were in poor condition. I would suggest that the direct and indirect effect of particulates, nitrogen dioxide and other forms of traffic pollution on house sparrows should be investigated.

The increased use of pesticides and herbicides was one of the factors contributing to the decline in rural house sparrow populations. The use of pesticides in gardens will, no doubt, have contributed to the reduction in insect numbers in urban areas.

Disease is an issue which should also be considered. At the 2004 house sparrow conference in London, it was reported that the wild bird strain of salmonella was the biggest killer of house sparrows which were submitted to the Scottish Agricultural College (SAC) Veterinary Service during the winter months (Pennycott 2005). Salmonella can persist in the population for months or even years and an SAC study found that there was a strong correlation between house sparrow numbers and the level of the disease found in faecal samples taken from around bird tables. A similar correlation was not seen for other species. House sparrows can survive with a low level of salmonella so infected birds can act as carriers. At times of stress these birds begin to excrete more bacteria and the salmonella then escalates throughout the local population.

Other possible factors contributing to the decline in the house sparrow include noise pollution, collisions with windows and moving vehicles and a knock-on effect from the decline of the rural population, if those birds acted as a source for the urban population. There was not time to consider all of them in this presentation.

Conclusions

I suggest that low productivity, caused chiefly by a shortage of invertebrates for the chicks, is the main, but not the only, cause of the decline in London's urban house sparrow population. A number of changes which have taken place over the last forty years or so are likely to have put pressure on urban sparrows. Changes in garden structure and the urban landscape leading to a reduction in greenspace and an emphasis on neatness, together with the widespread use of pesticides, will all have reduced the natural food available to adults and chicks. While the reduction in natural food available to adults will have been offset to some extent by the increased amount provided by householders, this may not necessarily have been so nutritious and there may be periods when the supply is inadequate. House sparrows may have difficulty finding good nest sites close enough to a good food supply. In addition there are certainly more predators in urban areas than there used to be. Pollution, particularly pollution from road traffic, may be a further problem. While none of these on its own is likely to have caused the decline, taken together they could well be responsible.

Actions that can be taken to help house sparrows

For anyone who is fortunate enough to have sparrows visiting the garden, it is worthwhile checking where they nest. If they nest on the house and it is necessary to repair the roof or do any other repairs which will block holes used by sparrows, or potential nest holes, one or more nest boxes can be incorporated or put up afterwards. In any case a spare nest box may provide a home for a sparrow nesting on another property if its hole is lost.

Good hedge or bush cover is important as this provides protection from predators, a safe place for house sparrows' social activities and a source of invertebrate food for their chicks. Hedges and bushes should be pruned or cut back sensitively outside the nesting season and where possible over a period of time so there is always a reasonable amount of cover. Flowers which attract insects or provide seeds are beneficial and the use of insecticides should be avoided. If lawns are not mown too close and are allowed to become rather weedy they will provide a source of seeds and invertebrates.

Providing food which sparrows can access all the year round is beneficial and it may be possible to increase the quantity if there seems to be unusually high demand, if for example a party of newly independent juveniles appears. As we have seen, the provision of live mealworms during the breeding season can boost productivity.

In order to protect house sparrows against salmonella and other diseases it is important to clean the feeding areas, feeders, dishes, water bowls and table regularly and to use a suitable disinfectant which most of the bird food suppliers sell. Also, if possible, the feeding station should be moved around the garden or sited on a paved area or slab which can be washed down. In order to provide some protection from sparrowhawks and cats, feeders should, where possible, be sited so as to make it difficult for feeding birds to be caught.

Birds, particularly those not long out of the nest, tend to fly into windows. Some windows are more of a problem than others and a stick-on hawk silhouette, a blind or lace curtain may give some protection. There are now stickers which are virtually invisible to the human eye but are visible to birds because of reflections on an ultra violet coating. They appear to be particularly effective.

On a larger scale developers can help by incorporating special nest bricks for house sparrows, which are now available, into new houses. I have heard of house sparrows using swift *Apus apus* nest bricks where these but no sparrow bricks, have been provided. Sparrows and many other species would benefit if public open spaces in urban areas were made more wildlife-friendly. The RSPB's *London House Sparrow Parks Project* trialled long grass, native wildflower meadows and wildlife seed plots and I believe that some London parks have taken up one or more of these options.

Further work on urban sparrows is continuing. They are monitored by the BBS and the BTO's GBW and in 2014 there was a Citizen Science house sparrow project in Glasgow run by the local RSPB office and Glasgow University. It will be interesting to see the results of this as they may be relevant to London. As I have already mentioned, interesting work is also in progress at the University of Ghent. I hope that these studies will throw more light on why the urban sparrow is declining and help us make our urban areas more suitable for these lively little birds once again.

Acknowledgements

First and foremost I must thank Denis Summers-Smith for getting me involved with sparrows in the first place and for many helpful discussions. I must thank Mandy Rudd and Matt Davies at Greenspace Information for Greater London (GiGL) for useful discussion and Maria Longley at GiGL for producing the maps and providing some data on habitat for me. I had useful meetings with Tim Webb at the RSPB London Office and Katherine Jones at the RSPB Glasgow Office. Finally, once again I would like to thank all those who took part in the LNHS House Sparrow Monitoring Project.

References

BAKER, H., 1990. Birds of Small Open Spaces in Inner London 1987-1988. *Lond.Bird Rep. 53*: 126-138.

BAKER, H., 2005. House Sparrow Monitoring in the London Area: an Interim Report on a London Natural History Society Survey. *Lond.Bird Rep. 66*: 171-185.

BAKER, H., 2008. LNHS House Sparrow monitoring : 1995-2003. *Lond.Bird Rep. 69*: 158-165.

BAKER, H., 2014. LNHS House Sparrow Monitoring March 1995-September 2003: Final comments. *Lond.Bird Rep. 77*: 194-201.

BELL, C. P., PARKES, S. W., DE BROOKE, N. G., CHAMBERLAIN, D. E., 2010. The role of the Eurasian Sparrowhawk (*Accipiter nisus*) in the decline of the House Sparrow (*Passer domesticus*) in Britain. *Auk* 127: 411-420.

BLAND, R., TULLY, J., 2005. House Sparrows a Bristol study. *House Sparrow Conference Summary Document, City Hall, London, 20th February 2004*. Defra PB 10564, Department for Environment, Food and Rural Affairs, London.

BOWER, S., 1999. Fortpflanfungsaktivität, Habitatnutzung und Populationsstruktur eines Schwarms von Hausperlingen im Hamburg Stadtgebiet. *Hamburger avifauna. Beitr.* 30: 15-33.

COMEAP., 2010. The Mortality Effects of Long-Term Exposure to Particulate Air Pollution in the United Kingdom. A report by the Committee on the Medical Effects of Air Pollutants.

COMEAP., 2015. Statement on the evidence for the effects of nitrogen dioxide on health, Committee on the Medical Effects of Air Pollutants.

CRAMP, S., TOMLINS, A. D., 1966. The Birds of Inner London, 1951-65. *Brit.Birds 59*: 209-233.

EVERAERT, J., BAUWENS, D., 2007 A possible effect of Electromagnetic Radiation from Mobile Phone Base Stations on the number of Breeding House Sparrows. *Electromag. Biol. & Med.* 26:63-72.

GEDEON, K., CAULDWELL, A., EWNETU, M., REGASA, F., SCHÖNBRODT, R., TOPFER, T., 2015 House Sparrow *Passer domesticus* and hybrids with Somali Sparrow *P. castanopterus* in *Ethiopia Bull ABC Vol* 22 No 1: 70 -73.

GREGORY, R.D., WILKINSON, N. I., NOBLE, D.G., ROBINSON, J.A.,BROWN, A.F., HUGHES, J., PROCTER, D. A., GIBBONS, D. W., & GALBRAITH, C.A., 2002 *Brit.Birds* 95: 410-450.

HARRIS, S.J., RISLEY, K., MASSIMINO, D., NEWSON, S. E., EATON, M. A., MUSGROVE, A. J., NOBLE, D. G., PROCTER, D., & BAILLIE, S. R., 2014. *The Breeding Bird Survey*

2013. BTO Research Report 658, British Trust for Ornithology, Thetford.

HOMES, R. C. (ed),1957. *The Birds of the London Area since 1900*. London.

HUDSON, W.H, 1898. *Birds in London*. London.

LAUNDON, J. R., 2012. Lichens invade the City of London. *The Lond. Nat.* 91: 53-68

LONDON BIODIVERSITY PARTNERSHIP HOUSE SPARROW ACTION GROUP, 2003. *Where have all our Sparrows gone? Survey report London*, 2002. Sandy.

LONDON BIODIVERSITY PARTNERSHIP HOUSE SPARROW ACTION GROUP, 2012. *Hello again Londoners. Cockney Sparrow Count*. Sandy.

MALHER, F., 2009. The House Sparrow in Paris: results of a five-year monitoring. Presentation at meeting of WGUS (Working Group on Urban Sparrows), Newcastle, February 2009. (Abstract *Intern.Stud.Sparrows* 33: 17-32)

MORRISON. A., ROBINSON R. A., LEECH D. I., DADAM D., TOMS M. P., 2014 *Using citizen science to investigate the role of productivity in House Sparrow, Passer domesticus population trends*. Bird Study 61: 91-100.

NEWTON, I., 2013. *Bird Populations*, London, HarperCollins.

PEACH W. J., SHEEHAN D. K., KIRBY W. B., 2014. Supplementary feeding of mealworms enhances reproductive success in garden nesting House Sparrows. *Bird Study* 61: 378-385.

PEACH W. J., MALLORD, J. W., OCKENDON, N., ORSMAN, C. J., HAINES, W. G., 2015 Invertebrate prey availability limits reproductive success but not breeding population size in suburban House Sparrows *Passer domesticus*. **To be completed.**

PENNYCOTT, T., 2005. Deaths in House Sparrows from Salmonella Infection. *House Sparrow Conference Summary Document, City Hall, London, 20th February 2004.* Defra PB 10564, Department for Environment, Food and Rural Affairs, London.

SANDERSON, R. F., 2013. Autumn Bird Counts in Kensington Gardens, 1925-2010. *Lond.Bird Rep.* 75: 209-215.

SHAW, L. M., 2009. *Investigating the role of socioeconomic status in determining urban habitat quality for the House Sparrow.* PhD thesis, University of Exeter, UK

SHAW, L. M., CHAMBERLAIN, D. & EVANS, M., 2008. The House Sparrow *Passer domesticus* in urban areas: reviewing a possible link between post-decline distribution and human socio-economic status. *J. Ornithol.* 149:293-299.

SHAW, L. M., CHAMBERLAIN, D., CONWAY, G. J., TOMS, M., 2011. *Spatial distribution and habitat preferences of House Sparrows, Passer domesticus in urbanised landscapes*. BTO Research Report 599. BTO Thetford.

SMITH, C., 2010. *London: Garden City?* London Wildlife Trust, Greenspace Information for Greater London, Greater London Authority.

SUMMERS-SMITH, J. D., 2003. The Decline of the House Sparrow: a review. *Brit. Birds* 96: 439-446.

THOMAS, R. L., FELLOWES, M. D. E., BAKER, P. J., 2012. Spatio-Temporal Variation in Predation by Urban Domestic Cats (*Felis catus*) and the Acceptability of Possible Management Actions in the UK. *PLoS ONE* 7: e49369

VINCENT, K. E., 2006. *Investigating the causes of the decline of the urban House Sparrow population in Britain*. PhD thesis, De Montfort University, Leicester, UK (http://www.katevincent.org)

ODONATA REPORT FOR 2014

NEIL ANDERSON
52 Beechwood Avenue, Greenford, Middlesex, UB6 9UB

2014 was a much better season for warmth-loving insects, with the year being the warmest year nationally since records began. It was also the fourth wettest, although much of the excess rain was at the beginning of the year before Odonata were on the wing. August was the only month during the main flight season that was disappointing, being the coldest for 20 years.

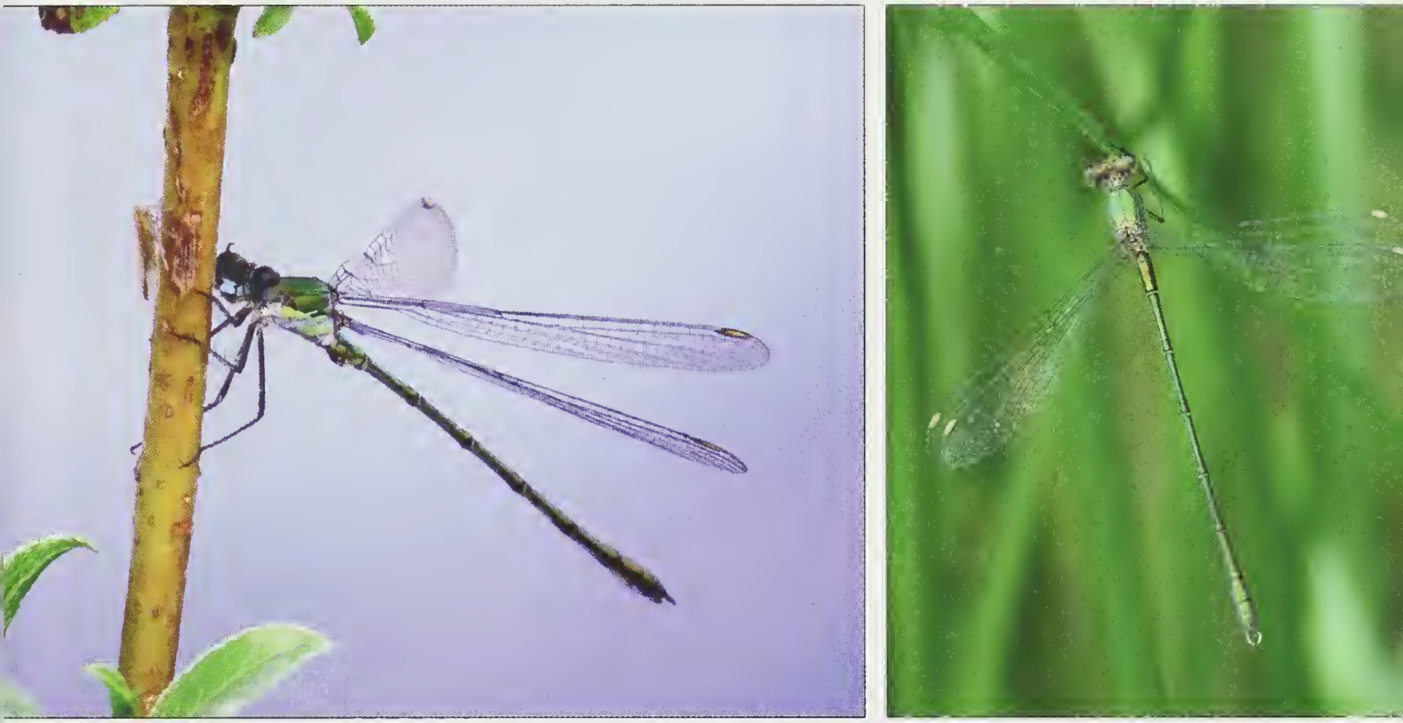
The first observation of an imago in our area was unsurprisingly of a large red damselfly *Pyrrhosoma nymphula* at Rainham RSPB Reserve. Another was recorded at the London Wetland Centre (LWC) the next day with further records obtained in the following days. By the end of April another three species were observed with, in order of appearance, hairy dragonfly *Brachytron pratense*, banded demoiselle *Calopteryx splendens* and blue-tailed damselfly *Ischnura elegans*.

Hairy dragonfly sightings are still most frequent in the Lee Valley and nearby Epping Forest ponds, notably Wake Valley Pond. It is also now established at the LWC and a record number of nine were recorded on a transect survey on 6 May by Dr Richard Bullock. There was also a single record received from Bedfont Lakes CP and a first from central London at an undisclosed site. No other records were received of this species but I'm sure it is now more widespread than the received records indicate.

One species for which I haven't received any records for several years is the white-legged damselfly *Platycnemis pennipes*. It is a species of slow-moving rivers with plenty of emergent and floating vegetation and requires good water quality. Probably the best spot for this riverine species was by the Lea/Cornmill Stream. I didn't find it here in 2012 and have anecdotally been informed that it is no longer present. I could see no obvious changes in the habitat and banded demoiselles remain abundant. Bookham Common occasionally yieded the species but these were probably wanderers from the River Mole. If you do see this species within the LNHS boundary I would be very pleased to receive any records.

Scarce emerald *Lestes dryas* was reported for the first time in a couple of years at Rainham RSPB with six found by Jerry Hoare in a drainage ditch and the likelihood of more present on site. No records were received this year from Blackheath after last year's unexpected discovery of the species on a pond there. Rainham has the unique (within our boundary) claim to fame of now having three emerald damselfly species on site and is without doubt the best site in the LNHS area for dragonfly diversity.

In addition to scarce and common emerald *L. sponsa* the recent colonist willow emerald *Chalcolestes viridis* has now been discovered at Rainham. Volunteer Dawn Cowan photographed an unknown damselfly she found on 7 August which was subsequently identified and confirmed by Roy Woodward as a willow emerald. At the time this was the first record I was aware of from the LNHS area, although subsequent communication with the reserve manager Howard Vaughan revealed the fact that several had been seen on

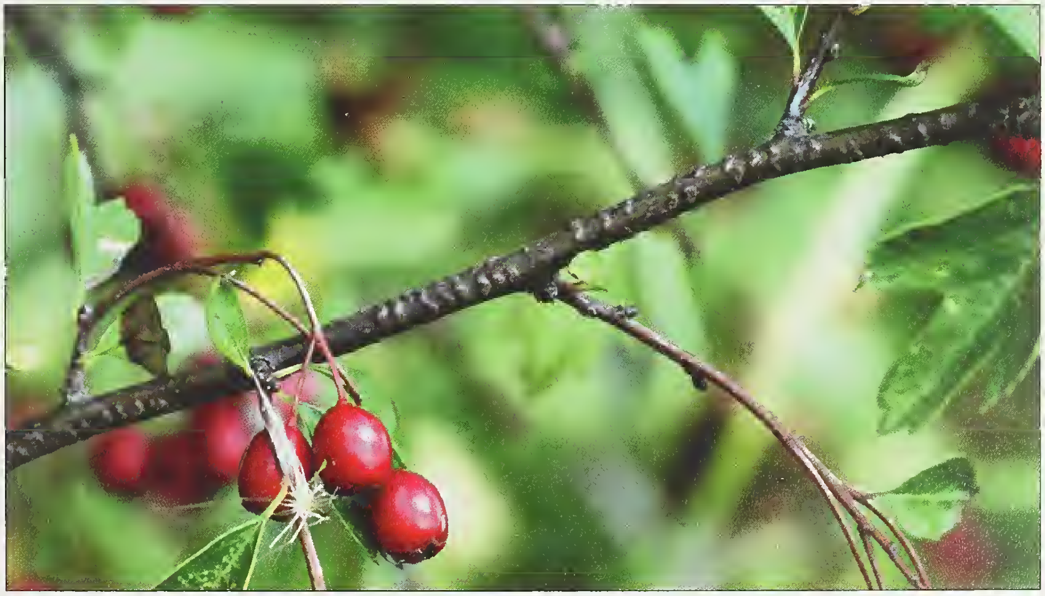


Left: Willow emerald (showing the diagnostic spur on the side of the thorax).
(David Chelmick)
Right Willow emerald. (David Chelmick)

the Mardyke, near Davey Down, in 2013 representing the first ever LNHS area records. Later a pair of the species was photographed in cop on the reserve and some oviposition scars were discovered on a *Salix* near the Troll Bridge possibly from overlooked individuals from last year.

Willow emerald continued to be seen at Rainham until at least the second week of September when there were a minimum of three seen on 10th. The first ever British

Below: Branch showing typical willow emerald egg-laying scars. (David Chelmick)



Above and below: Willow emerald habitat. (David Chelmick)

Southern migrant hawker, Rainham Marshes. (Jerry Hoare)

record of this species was from Pevensey, East Sussex. No further records occurred until a single exuvia was found on the North Kent marshes in 1992 but no adults were seen. The next record was of an adult discovered near Felixstowe, Suffolk in 2007. Although none were seen the following year, over 400 were recorded in the general area in 2009. Additional influxes from the near continent combined with local breeding have facilitated further colonisation of parts of Suffolk and neighbouring counties into Norfolk and Essex followed by north Kent.

Following the Rainham discovery a site was amazingly found in the Surrey sector of the LNHS recording area representing the first county record of willow emeralds. The site near Redhill was discovered by Dave Chelmick in a water meadow complex near a housing estate. The colony seemed well established so had almost definitely gone undetected for at least a year or two. Dave recorded several pairs in cop and also observed the diagnostic pairs of egg slits in branches over the water. It will be interesting to see if other colonies can be discovered in the area.

Southern migrant hawker, Rainham Marshes. (Jerry Hoare)

Finally just over our border in the north a further couple of willow emeralds were discovered at Amwell in early September- the first records for Herts. It seems highly likely this recent colonist will consolidate its range in our area over the coming seasons following in the footsteps of another fairly recent colonist, the small red-eyed damselfly *Erythromma viridulum*.

Unlike the latter species willow emerald can be easy to overlook as it is fairly arboreal, frequently sitting high in bushes or trees sometimes well away from water. The eggs are laid in young branches over water with the larvae emerging the following spring and dropping into the water. The new adults emerge late that summer. It is with some optimism I anticipate hearing of further records of this species in 2015.

Another recent colonist to England is the southern migrant hawker *Aeshna affinis*. Following the first real influx in the Thames estuary in 2010, we had our first LNHS area record in early September at Rainham RSPB. Like this initial record, the only 2014 record in our area of an adult male on 29 July was again detected and photographed by Jerry Hoare at Rainham. Outside our boundaries sightings of this species were relatively few this year in the Kent/Essex marshes compared with previous seasons so it remains to be seen if it can keep a foothold as a permanent English breeding species. Further immigration to the UK would be useful to consolidate its status.

For the second consecutive season Nigel Wyatt recorded red-veined darters *Sympetrum fonscolombii* at the Round Pond in Kensington Gardens. Though no females were positively identified during the 2013 season, it is conceivable that breeding may have occurred. However, the 2014 records coincided with a period of immigration of red-veined darters with records in Hampshire, Norfolk and Kent as well as on the near continent.

Nigel's first records this year were of two males on 9 June with a possible female with these two on 11 June. Numbers peaked between 24 and 30 June with up to six males and the final sighting of two males on 14 July.

The only other record of red-veined darter for our area was my own discovery of a pair mating and egg laying on 13 July in a temporary pool on an open brownfield site adjacent to Ten Acre Wood, Hillingdon. Initially just a male was seen but after five minutes he was observed coupling with the female. Sharing this pool were two male emperors *Anax imperator*, six black-tailed skimmers *Orthetrum cancellatum* and two common blue damselflies *Enallagma cyathigerum*. Sadly a couple of months later the pool was destroyed by workmen.

It was interesting to hear of small red damselflies *Ceriagrion tenellum* present on Esher Common reported by Stephen Darlington. Though a historically known site for this southern acid-loving species, this is the first positive record I've had of this species since I became recorder. This site is one of the most important dragonfly sites in our area being the only one regularly holding brilliant emerald *Somatochlora metallica* with three males reported on a visit on 6 June. Along with Wake Valley Pond, Epping Forest, the Black Pond on Esher Common remains the most important site for downy emerald *Cordulia aenea* with several seen again in June.

Continuing the trend of recent years beautiful demoiselles *Calopteryx virgo* were again reported. This year the species was observed at four sites. Again it was reported from Bookham Common and also Ewell Hogsmill open space. In the north Robert Callf reported a male on the Turkey Brook at Bull's Cross, Enfield. Perhaps the most interesting records were from a new site discovered by Derek Coleman. These were found by a local nature reserve, Wilderness Island, between two arms of the River Wandle in Carshalton. Derek observed three males and two females here on 12 June, with three males still present nearly two weeks later on 25 June. Hopefully this species may colonise the site alongside its commoner cousin the banded demoiselle *C. splendens*. All records of this species within the LNHS boundaries are eagerly sought!

Most of the more widespread species seemed to be present in average numbers. Of note was the fact that the small red-eyed damselfly was the most numerous damselfly species seen at Rainham in early August with egg laying occurring everywhere.

As expected the last sighting of the year was of common darters *Sympetrum striolatum*. Kathryn Bull and I watched four individuals, including an ovipositing pair, on Ham Gate Pond, Richmond Park on the late date of 29 November, a legacy of the very mild autumn. Sadly the weather deteriorated as we entered December with no further records received.

References

CHAM, S., NELSON, B., PARR, A., PRENTICE, S., SMALLSHIRE, D. and TAYLOR, P. 2014. *Atlas of dragonflies in Britain and Ireland*. Biological Records Centre and British Dragonfly Society.

PERRIN, V. 2014. Dragonflies. *British Wildlife* 26: 48-50.

LONDON BUTTERFLY MONITORING REPORT FOR 2014

L.R. WILLIAMS
34 Christchurch Avenue, Kenton, Harrow, Middlesex HA3 8NJ

Abstract

Data from over twenty sites in London, monitored using the transect walks method, were used to calculate collated indices for butterfly species for 2014. The indices enabled comparisons with previous years. Species accounts were supplemented by records from other sites, surveys and observations.

Introduction

Results from the monitoring of changes in the abundance of butterflies in Greater London are presented in this paper for the year 2014. Monitoring using this method commenced in London in 1978, though coverage of sites was limited in the earlier years. Other records of butterflies from London and from the wider London Natural History Society (LNHS) recording area are noted.

Methods

Butterflies were monitored along transects by the standard method of the UK Butterfly Monitoring Scheme. This is described at www.ukbms.org but see also Pollard and Yates 1993, and Crawford (1991) for an introduction to the use of collated indices in wildlife monitoring; and Williams (2000) for details on the application of the method in London. The method enables the raw counts from different sites to be collated into indices of change of species abundance.

A set route, known as a transect, is walked at each site between April and September inclusive, and within a standard range of weather conditions conducive to butterfly flight. Counts were made of the number of adult butterflies observed to provide a total for each species for the year at each transect. Provided that a transect had good coverage, estimates could be made for weeks missed due to poor weather or the unavailability of the recorders. However, if too few weeks were walked, it was difficult to calculate estimates and that transect was not included in the indices for that year. To contribute to the indices, data from each transect must be available for at least two years, though these do not need to be consecutive.

Estimates of the relative changes in the populations of each species from year to year are indicated by the difference in the indices. For example, a species with an index of 50 in one year and 25 in the following year would have had approximately half the adult population in the second year as compared with the first year. Indices have been rounded to the nearest whole number and were generally set at 100 in 1990 or the first year of record of a species: for a technical discussion see Crawford (1991). Reliability of indices increases with the number of transects. In the earlier years there were relatively few transects; for example, one transect was walked in 1978, two in 1986, three in 1988 and eight in 1990. Reliability of the indices may be lower for species with low counts and/or local distribution in London.

Data from twenty-three transects were included in the indices for 2014. Transects that contributed data to the index in 2014, the years for which data was available and the Borough in which the transect was located, were: Hampstead Heath (Camden) 1978-2014, Fryent Country Park (Brent) 1986-2014, Beane Hill (Brent) 1988-2014, four transects managed by the Corporation of London (located in the London Borough of Croydon): Coulsdon Common 1990-2011, 2013-2014, Farthing Downs 1990-2014, Kenley Common 1990-2009, 2013-2014, Riddlesdown 1990-2014; London Wetland Centre (Richmond upon Thames) 1996-2014, Railway Fields (Haringey) 1997-2014, Hutchinson's Bank Nature Reserve (Croydon) 1997-2014, South Norwood Country Park (Croydon/Bromley) 1998-2014, Tower Hamlets Cemetery Park (Tower Hamlets) 1999-2014, Gunnersbury Triangle (Hounslow) 1999-2014, Brent Reservoir (Barnet/Brent) 2000-2014, Riddlesdown Quarry (Croydon) 2001-2005, 2008-2014, Chapel Bank (Croydon) 2003-2004, 2014; Kenwood Estate (Camden) 2005-2014, Horsenden Hill East (Ealing) 2005-2014, Horsenden Hill West (Ealing) 2005-2014, Perivale Wood (Ealing) 2005-2014, New Hill (Croydon) 2005-2006, 2008-2012, 2014; Sydenham Hill Wood (Southwark) 2010-2011, 2013-2014; and Parkland Walk South (Haringey 2012-2014). Transects were walked at several other sites in 2014 including some new transects. The 2014 data from these transects could potentially be included in the future: Mitcham route A (Merton), Cranford Park south (Hounslow), Lake Farm Country Park (Hilllingdon), West Wickham Common (Bromley), Downe Bank, Downe House estate, Happy Valley, Jubilee Country Park, Lee Valley - Walthamstow Marshes, Lee Valley waterworks, Morden Hall Park, Richmond Park, Roundshaw Downs, Spring Park, St James's Park, and Wimbledon Common.

Transects beyond Greater London but within the LNHS area are not included in these collated indices and reference should be made to the respective county data and reports produced by Butterfly Conservation, e.g. Wood (2015). However, where appropriate the species accounts make reference to records from the wider LNHS area.

Results

The order and nomenclature of the species accounts follow Asher *et al.* (2001). The accounts are based on the collated indices that commenced in 1978, and which for the years 2004 to 2014 are presented in Table 1. Some year to year variation is to be expected, so the comments are focused on the more pronounced changes and on longer term trends. The 'Total count on transects' provides an indication of the size of the count from which the analysis was made in 2014 using the data from the transects included in the index for that year. Those figures included the estimated counts for missing weeks, but not data or estimates for transects that were not walked or that had insufficient data in 2014.

Small skipper *Thymelicus sylvestris* and Essex Skipper *Thymelicus lineola*

Small and Essex skippers are generally counted together by transect walkers due to the difficulty of separately identifying the two species while they are in flight. Both are dependent on rough grassland habitat. The 2014 index was near the top of the range since 1998 but these species appear to have declined compared with the records available for the years before 1998. Though the species occurred on most transects in 2014, there

Species/Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Small and Essex Skippers	76	79	74	61	60	63	33	38	30	72	84
Large Skipper	59	64	50	46	29	66	54	71	32	52	106
Dingy Skipper	73	56	28	14	15	30	39	80	63	137	130
Grizzled Skipper	84	20	27	44	64	113	28	109	32	82	68
Clouded Yellow	103	0	554	23	91	311	0	0	0	1261	234
Brimstone	112	104	98	69	72	133	84	121	58	181	161
Large White	154	170	153	76	125	326	117	96	54	238	113
Small White	270	218	197	200	161	243	178	278	145	324	170
Green-veined White	93	63	55	48	47	92	49	91	40	56	62
Orange Tip	62	74	49	33	38	76	80	122	79	70	60
Green Hairstreak	116	76	45	102	82	89	66	258	57	48	126
Brown Hairstreak											100
Purple Hairstreak	254	434	315	297	391	451	504	376	98	194	245
White-letter Hairstreak	7	59	95	21	26	70	65	23	12	29	29
Small Copper	52	22	60	52	33	52	51	45	29	42	42
Small Blue	67	134	485	287	191	358	1298	3145	370	1089	833
Brown Argus	22	11	25	18	11	16	35	55	4	21	44
Common Blue	68	56	121	35	43	95	138	58	23	141	191
Chalkhill Blue	89	29	126	10	3	10	8	32	72	202	252
Holly Blue	64	72	40	71	63	24	42	56	42	29	27
White Admiral	100	0	0	0	100	0	100	300	100	0	0
Purple Emperor	0	100	0	0	0	0	0	0	0	0	0
Red Admiral	131	161	369	387	139	141	147	251	259	62	277
Painted Lady	36	3	230	36	4	1011	18	3	13	16	16
Small Tortoiseshell	146	51	26	12	5	10	24	31	8	46	95
Large Tortoiseshell	0	0	0	0	0	100	0	0	0	0	0
Peacock	587	497	307	389	306	832	615	278	175	457	569
Comma	158	129	237	120	121	315	143	101	74	196	158
Dark Green Fritillary	12	4	0	0	0	11	7	22	15	87	110
Silver-washed Fritillary	0	125	500	0	0	125	794	907	0	620	1073
Glanville Fritillary								100	214	43	429
Speckled Wood	138	146	129	121	185	233	127	161	120	125	173
Marbled White	29	12	36	33	53	58	35	46	61	73	154
Gatekeeper	203	243	195	154	149	185	166	171	193	180	194
Meadow Brown	114	150	130	77	84	79	50	75	121	121	111
Ringlet	218	155	191	131	240	295	251	247	254	419	464
Small Heath	8	12	10	12	7	10	13	46	28	27	16

were low or no counts on some transects where the species were previously frequent. At fifteen transects, recorders identified some of the individuals to species. Of those 263 skippers, 69 per cent (182) were small skippers and 31 per cent (81) were Essex skippers. There was also a high count at Mitcham Common. Total count on transects: 1,200.

Large skipper *Ochlodes sylvanus*

In London the large skipper was associated with rough grassland and scrub. Populations appear to have declined compared with the 1980s to the mid-1990s. However, the index in 2014 was the highest since 1995. The species was recorded on each of the twenty-three transect sites. Total count on transects: 578.

Dingy skipper *Erynnis tages*

The typical habitat of the dingy skipper is short grassland containing the larval food plants, with some bare patches and taller vegetation to provide shelter and roosting areas (Asher *et al.* (2001)). In London the species is found on some chalk grassland sites on the southern edge of London such as at Hutchinson's Bank Nature Reserve and Riddlesdown Quarry. Counts were similar to the relative high reported for 2013 as compared with years since 1997. Total count on transects: 140.

Grizzled skipper *Pyrgus malvae*

Habitat for the grizzled skipper is unimproved grasslands containing spring nectar plants and the larval food plants, preferably with bare patches and taller vegetation (Asher *et al.* (2001)). In London the species is effectively confined to a few chalk grassland sites on the southern edge of London: in 2014 the transect records were from Hutchinson's Bank Nature Reserve and from two other sites. Total count on transects: 22.

Clouded yellow *Colias croceus*

Clouded yellows were recorded at Gunnersbury Triangle and the London Wetland Centre, while the other records were on the southern edge of London. The latest record appears to be of 28 October 2014 from Hutchinson's Bank Nature Reserve. The species was also recorded at Lee Valley-Walthamstow Marshes and Wimbledon Common. Total count on transects: 13.

Brimstone *Gonepteryx rhamni*

The index in 2014 was the third highest for London since comparable indices for the species commenced in 1990. The London trends may need further interpretation due to the effect of the colonization within urban areas where the brimstone was previously absent (see Plant (1987)). Records of the species from each of the twenty-three transects

Left: Table 1. Collated indices for butterfly species in London, 2004-2014. Indices have been rounded to the nearest whole number and have usually been set at 100 in 1990 or the first year of record, though indices may be set at 100 in other years or at a different figure where this aids interpretation. A blank indicates that the species had not yet been recorded on any transect in London. A zero indicates that a species was not observed on transects in that year but had previously been observed on a transect in London.

are also evidence that it is now more widespread. The planting and subsequent growth of the main larval food plants, particularly alder buckthorn *Frangula alnus* and on drier soils common buckthorn *Rhamnus cathartica*, has facilitated the establishment of new populations. Diane Andrews reports that a brimstone laid eggs on 17 May 2014 on an alder buckthorn in a garden at Wood Green and though larvae developed they were predated by birds particularly great tits. Brimstones were recorded during the LNHS walk at Hyde Park and Kensington on 29 March 2014; at Alexandra Palace; and in a back garden and at nearby Belmont Open Space, East Barnet. Brimstones were recorded flying in London in each of the months of March to October 2014. Total count on transects: 1,199.

Large white *Pieris brassicae*

Widespread and associated with locations where the larval food plants occur, e.g. agricultural areas where brassica field crops are grown, and in urban areas with gardens and allotments. In 2014 it was recorded from all transects but the abundance was approximately half that of 2013, though the species exhibits large year-to-year changes. Total count on transects: 653.

Small white *Pieris rapae*

Associated with brassica plants, the small white is noted for laying eggs on crops and in gardens. Recorded on all transects, though some transect records appear to include counts for the green-veined white. The abundance in London was about half that of the high index of 2013 and nearer to the average for recent years. Total count on transects: 1,227.

Green-veined white *Pieris napi*

The green-veined white occurs particularly in damp grassland, and alongside hedgerows, woodland, ditches and water where wild crucifer food plants grown. Recorded on all transects in 2014. Total count on transects: 1,069.

Orange tip *Anthocharis cardamines*

A species of damp meadows, hedgerows, woodlands, roadsides and waterside habitats where crucifer food plants occur, in particular cuckooflower *Cardamine pratensis* and garlic mustard *Alliaria petiolata*. Orange tips were widespread in London, though not recorded on all transects in 2014. Total count on transects: 284.

Green hairstreak *Callophrys rubi*

The green hairstreak is a species of unimproved grasslands with shrubs and scrub. Records were from five mainly chalk grassland sites on the southern edge of London. There were also records from Crossness Nature Reserve on Erith Marshes; near to the Thames wall between Crossness and Thamesmead; at Downe House estate; the London Wetland Centre; and at Mitcham Common. Total count on transects: 30.

Brown hairstreak *Thecla betulae*

A species of hedgerows, woodland edges and scrub, the species is dependent upon the larval food plant, particularly blackthorn *Prunus spinosa*. The brown hairstreak has declined in Britain, partly attributed to the removal of hedgerows and the flail-cutting of other hedgerows. There were single records from two Surrey transects on the southern edge of London. There were also reports of brown hairstreaks from other sites on the southern edge of London. Total count on transects: 2.

Purple hairstreak *Favonius quercus*

Colonies of the purple hairstreak are associated with oak (*Quercus* spp.). Purple hairstreaks generally fly during the evening, and compared with other species are possibly under-recorded on transects which are walked during the day. Almost all of the count was from two transects; the Brent Reservoir and the Kenwood Estate. The species was also recorded at Horsenden Hill; Perivale Wood; at sites in Croydon; Jubilee Country Park; and at Wimbledon Common. Total count on transects: 36.

White-letter hairstreak *Satyrium w-album*

White-letter hairstreaks use elm *Ulmus* spp. for breeding, and with the loss of mature elm trees in the 1970s the butterfly is now associated in London with younger elm trees that have grown from suckers in hedgerows and woodland edges. There were transect records from the Brent Reservoir, Horsenden Hill West and Horsenden Hill East transects. Total count on transects: 11.

Small copper *Lycaena phlaeas*

Dry unimproved grassland is the main habitat for the small copper, particularly where the main larval food plants, common sorrel *Rumex acetosa* and sheep's sorrel *R. acetosella*, occur. Distribution and abundance have declined in London since the 1990s, and though widespread, populations appear to be localised. Mitcham Common and Richmond Park were sites noted for this species. Total count on transects: 160.

Small blue *Cupido minimus*

The small blue is dependent upon the sole food plant, kidney vetch *Anthyllis vulneraria*; and in London is effectively confined to some chalk grassland sites on the southern edge of London. Total count on transects: 75.

Brown argus *Aricia agestis*

While calcareous grassland is considered to be the typical habitat, the brown argus also occurs on other dry grasslands. For 2014 records were primarily from transects in the south of London, though there were records too from Horsenden Hill West and the nearby Perivale Wood, Downe House estate, Lee Valley waterworks, and Mitcham Common. Total count on transects: 86.

Common blue *Polyommatus icarus*

The common blue is a species of grassland habitats and the main food plant is common bird's-foot trefoil *Lotus corniculatus*, though some other legume species are also used. There were particularly high counts from chalk grassland sites on the southern edge of London. In turn that was reflected in the highest index for years, yet the common blue had nil counts from some of the transect sites within urban London. Total count on transects: 2,609.

Chalkhill blue *Polyommatus coridon*

Calcareous grassland with the food plant, horseshoe vetch *Hippocrepis comosa*, is the habitat of the chalkhill blue. Chalkhill blues were recorded at transects on the southern edge of London in 2014; and particularly at Riddlesdown Common. The high index for 2014 exceeded the high index of 2013. Total count on transects: 164.

Holly blue *Celastrina argiolus*

The holly blue is a widespread species dependent upon the presence of the larval food plants, particularly ivy and holly. For London, the holly blue appears more common in the green spaces within urban areas than at sites in areas of countryside. In Croydon, reports of the adults continued into October and November 2014. Total count on transects: 208.

White admiral *Limenitis camilla*

The white admiral is a butterfly of woodland and uses honeysuckle *Lonicera periclymenum* as the food plant. Two were recorded at Jubilee Country Park, Bromley; while others were reported at Ruislip Woods, and from Wimbledon Common. Total count on transects: 0.

Purple emperor *Apatura iris*

The habitat of the purple emperor is broad-leaved woodland where goat willow *Salix caprea* or grey willow *S. cinerea* occur, and it prefers larger woodlands or a landscape with numerous smaller woods and scrub. Purple emperors are present in some of the woodland areas on the northern and southern edges of London. In 2014 it was reported from Trent Park (see Wood (2015)). Total count on transects: 0.

Red admiral *Vanessa atalanta*

The red admiral is a migratory species from continental Europe and North Africa, but may then breed in Britain to produce a summer generation, with some remaining to over-winter as adults. In 2014 there were London records in each of the months of April to December 2014. Total count on transects: 208.

Painted lady *Vanessa cardui*

A migrant from North Africa, the painted lady may occur in any habitat and will seek thistles as nectar sources and as the larval food plant. Numbers fluctuate greatly from year to year, as can be seen from Table 1. Total count on transects: 12.

Small tortoiseshell *Aglais urticae*

The small tortoiseshell occurs in a range of habitats including urban areas, and will seek the common nettle *Urtica dioica* and the small nettle *U. urens* as larval food plants. The 2014 abundance was the highest since 2004. This represented a partial recovery for the small tortoiseshell, as populations declined in London from about the year 2000; while declines were also evident in other areas of England. Total count on transects: 331.

Peacock *Aglais io*

Woodland paths, hedgerows, and gardens are habitats for the peacock though they may occur in other habitats seeking nectar plants or the common nettle *Urtica dioica* for egg laying. Total count on transects: 619.

Comma *Polygonia c-album*
The comma has a preference for hedgerows, woodland edges, gardens, and is widespread throughout London. It was recorded on all twenty-three transects in 2014. There were records in London for each of the months March to September 2014. Total count on transects: 397.

Dark green fritillary *Argynnis aglaja*
The dark green fritillary is a butterfly of grasslands, light scrub and other open habitats. Various species of violet *Viola* spp. are the larval food plants. Within the transect sites, Hutchinson's Bank Nature Reserve accounted for the large majority of the records and where the recorded numbers continued to increase. Other records were from Downe Bank, and Downe House estate. Total count on transects: 47.

Silver-washed fritillary *Argynnis paphia*
The silver-washed fritillary has a preference for broad-leaved woodland in which the common dog-violet *Viola riviniana* grows, though the adult butterflies are typically found along sunny paths and in glades. The re-inclusion of Chapel Bank in the indices (and now with a population of the silver-washed fritillary) increased the index, while the species was also present at New Hill, Selsdon Wood in Croydon; and other sites on the southern edge of London. Within urban London, there were records from Tower Hamlets Cemetery Park, Ruislip Woods, and from Sydenham Hill Wood. Total count on transects: 21.

Glanville fritillary *Melitaea cinxia*
In Britain the Glanville fritillary is a species which is now largely restricted to coastal landslips on the Isle of Wight and the Channel Islands. In London the species had recently established at one site, possibly through re-introduction (see Willmott *et al.* (2013) for some related background). Total count on transects: 30.

Speckled wood *Pararge aegeria*
Typically found along paths and in glades in woodland or flying in partial shade, the larval food plants of the speckled wood are various grasses. Speckled woods can also be seen in small green spaces and gardens within urban London. Recorded on all transects. There were records for London for each of the months of March to October 2014. Total count on transects: 2,410.

Marbled white *Melanargia galathea*
The habitat of the marbled white is unimproved rough grassland preferably containing red fescue *Festuca rubra*. While the marbled white is more a species of the countryside, populations have established at some green spaces in urban London during recent years. For 2014 these included the Brent Reservoir, Horsenden Hill, Perivale Wood, the Kenwood Estate and Tower Hamlets Cemetery Park. The index was the highest since 1997, the first year for which comparable indices are available for London. There were other records

from the Enfield area, Jubilee Country Park in Bromley, Mitcham Common, Richmond Park, Spring Park, and Wimbledon Common. Total count on transects: 1,973.

Gatekeeper *Pyronia tithonus*

Two English names for this species, gatekeeper and hedge brown, aptly describe the typical habitat of hedgerows, woodland edges and paths, rough grassland and scrub. Recorded on all transects and often as common at green spaces in urban areas, as in the countryside areas on the edge of London. At the London Wetland Centre, Richard Bullock has highlighted that the Gatekeeper, which had been absent from Richmond during the 1980s, colonised the London Wetland Centre in the 1990s and has become one of the two most frequent species. Total count on transects: 2,978.

Meadow brown *Maniola jurtina*

The meadow brown prefers more open areas than the hedge brown with rough grassland or hay meadows, particularly where the management is conducive to the growth of the larval grass food plants. Recorded on almost all transects in 2014, it was most common in semi-natural green spaces, but will occur in green spaces within urban areas and in residential gardens. Total count on transects: 9,062.

Ringlet *Aphantopus hyperantus*

The ringlet is a species of rough grassland in and near to woodland. The index was the highest since the start of the London index for this species in 1990. Numbers increased both at sites on the southern edge of London, and sites where the ringlet has more recently established, such as the Brent Reservoir. Ringlets were also recorded at South Norwood Country Park, Tower Hamlets Cemetery Park, Horsenden Hill West, the London Wetland Centre, at sites in Bexley, Alexandra Park, Cranford Park south, Jubilee Country Park in Bromley, Lee Valley waterworks, Mitcham Common, Morden Hall Park, Richmond Park, Spring Park, and Wimbledon Common. Total count on transects: 2,099.

Small heath *Coenonympha pamphilus*

The small heath occurs in short, well-drained grasslands, where the larval food plants of fine-leaved grass species occur. Of the transects in the index, populations were present at chalk grassland sites on the southern edge of London. There was also a population at Richmond Park where the habitats include acid grassland. Other records were from Cranford Park south, Downe House Estate, Horsenden Hill, Jubilee Country Park in Bromley, Trent Park, and Wimbledon Common. Total count on transects: 257.

Other species

There were a few records of species in London during 2014 that are considered to be escapes or releases from captive populations: An unidentified species, possibly a swallowtail, was photographed at Russia Dock Woodland on 9 July 2014 by Jonathan Best, though online identification of the image proved inconclusive. There was also a report of a *Morpho menelaus* in Belgravia, apparently an escape from an event at the Natural History Museum.

Beyond Greater London but within the wider LNHS recording area the silver-studded blue *Plebejus argus* was recorded at Fairmile Common, Surrey.

Discussion

The weather during 2014 was considered to have benefited some species of butterflies compared with recent years. In advance of the publication of the full national results for 2014, Butterfly Conservation in a press release of 2 April 2015 noted that the marbled white, ringlet, and the brimstone all experienced their best years since the UK Butterfly Monitoring Scheme commenced in 1976. The national summary for the previous year, 2013, has now been published (Brereton *et al.* (2014)). The London transects contribute towards these national indices; and also towards the data held by Greenspace Information for Greater London (GiGL).

Records from central London and urban areas are valuable in providing coverage of those areas. While the number of species may be lower, the results may highlight the potential for creating habitat. For example, seven species were recorded on a transect at St James's Park: large white, small white, green-veined white, holly blue, red admiral, peacock and speckled wood.

Populations and the distribution of butterflies in London continue to change, in addition to the influences of year-to-year changes. Some of these changes are evident from comparing the maps from Plant (1987) with the changes noted by Fox and Williams (2006); and with more recent changes, see for example Willmott *et al.* (2013) covering Surrey; and Wood (2015) covering Middlesex and Hertfordshire. Rosie Lodge has undertaken some initial analysis of the gatekeeper in London. During the year there were further innovations in the technology available for recording butterfly records. The challenge now is to improve the flow, access to and analysis of records.

Acknowledgements

An apology is made that the list here is brief and to those recorders not listed here. Transect walkers and recorders in 2014 included Neil Anderson, Diane Andrews, Helen Baker, Roy Beddard and Andrew Self at the Brent Reservoir; Jonathan Best, Catherine Beazley, Michael Berthoud, Simon Mercer and Leslie Williams at Fryent Country Park and Beane Hill; Richard Bullock at the London Wetland Centre at Barn Elms; Gay Carr, the Croydon Birders and John Birkett; Geoff Hoggett, David Howdon, Andrew Culshaw, Martin Smith and Wendy Knight particularly for records from Ealing; Rob Husband, George Kalli, Rupert Kaye, John Parish, Bill Potter, Simon Riley, Chris Rose, Adam Salmon, David Wills, and Martin Wills at Hutchinson's Bank Nature Reserve. Reports of field meetings are published in the LNHS Newsletter, and the Butterfly Conservation Hertfordshire and Middlesex Branch Newsletter. Rosie Lodge and her sister have undertaken some analysis for changes in the abundance of the Gatekeeper. The support of the landowners and land managers of the transect and other sites are acknowledged including a significant number of the London Boroughs (see the Methods), the Corporation of London, other public authorities, the London Wildlife Trust, the Mitcham Common Conservators, the Friends of Tower Hamlets Cemetery Park, Barn Hill Conservation Group and the Welsh Harp Conservation Group. The co-operation with the county co-ordinators for Butterfly Conservation is noted in particular from Andrew Wood for Hertfordshire and Middlesex, and Harry Clarke for Surrey. Dr Dave Dawson had previously advised on the statistical method for the collations and the programming of the spreadsheets.

References

ASHER, J., WARREN, M., FOX, R., HARDING, P., JEFFCOATE, G. and JEFFCOATE, S. 2001. *The millennium atlas of butterflies in Britain and Ireland*. Oxford University Press.

BRERETON, T.M., BOTHAM, M.S., MIDDLEBROOK, I., RANDLE, Z., NOBLE, D.G and ROY, D.B. 2014. *United Kingdom Butterfly Monitoring Scheme report for 2013*. Centre for Ecology and Hydrology; and Butterfly Conservation.

CRAWFORD, T.J. 1991. The calculation of index numbers from wildlife monitoring data. In Goldsmith, B. (ed.), *Monitoring for conservation and ecology*: 225-248. Chapman and Hall. London.

FOX, Richard and WILLIAMS, Leslie. 2006. A commentary on recent changes to butterfly distributions in the London Area. *Entomologist's Record*, 118: 69-84.

PLANT, C.W. 1987. *The butterflies of the London Area*. London Natural History Society.

POLLARD, E. and YATES, T.J. 1993. *Monitoring butterflies for ecology and conservation*. Chapman & Hall, London.

WILLIAMS, L.R. 2000. London butterfly monitoring report for 1999. *Lond. Nat*. 79: 87-102.

WILLMOTT, K., BRIDGE, M., CLARKE, H.E. and KELLY, F. 2013. *Butterflies of Surrey Revisited*. Surrey Wildlife Trust.

WOOD, Andrew. 2015. *Hertfordshire & Middlesex Butterflies*. Hertfordshire and Middlesex branch of Butterfly Conservation.

NOTES ON THE CURRENT STATUS OF BUTTERFLIES IN BLACKHEATH AND GREENWICH PARK

JOE BEALE
E-mail: joetheillustrator@gmail.com

Abstract

This paper is based largely on the author's personal observations and aims to give an overview of the current status of butterflies in Greenwich Park and Blackheath in south-east London. Twenty-nine species known to have occurred between 2010 and May 2015 are noted and commented upon. Discussion focuses particularly on 2014's observations but also refers to selected other observations from the mid-1990s to early July 2015 and any changes observed. Brief notes on a selection of moths are given.

Introduction

This paper covers species recorded in Greenwich Park and Blackheath (sometimes referred to as "the area") from 2010 to May 2015, with reference to earlier information (since the nineties) where it exists, which helps to fill in gaps in knowledge or adds interest to the more recent situation. Nomenclature follows NBN Gateway (https://data.nbn.org.uk/). Observations are mainly the author's own, with contributions from other regular or occasional observers and available sources where known.

My local patch area is Greenwich Park and Blackheath. Since 2010 I have recorded butterflies there on numerous occasions, especially during summer 2014 due to a shift change at work, which allowed me more time during the day to look for butterflies. Part of this recording has taken the form of Butterfly Conservation's fifteen-minute counts for its summer Big Butterfly Count scheme. Although my efforts were not scientific surveys or transect walks, and I do not claim this paper as scientific, I believe that records from frequent visits to the area can help provide a useful overview of the recent status of butterflies at this location.

Greenwich Park is mixed-use parkland within a World Heritage Site. It contains trees and shrubs of a broad range of ages and species, amenity turf and areas of less-mown grassland and unimproved acid grassland. Blackheath is shared between Greenwich and Lewisham Boroughs. Blackheath overall comprises suburban gardens, amenity grassland, unimproved and less-managed acid grassland, relict heathland and scrub/trees. Ecologically important areas of relict heath, acid grassland and European gorse scrub are found in the uneven sandy ground of Vanbrugh Pits in the north-east and Hyde Vale in the west (both Royal Borough of Greenwich) and Eliot Pits in the south-west (Lewisham Borough), with gorse being extensive at Vanbrugh Pits. These areas with their impoverished sandy soil are closest to the habitat historically, before the hollows were filled in and levelled after World War Two and much of the grassland improved for amenity purposes. These pits are particularly interesting for invertebrates and plants and together with the large open areas are designated a Site of Importance for Nature Conservation.

Freed (2006) describes Greenwich Park's habitats and mentions the One Tree Hill area, sections of which receive minimal management and little mowing, as the best spot in the Park for butterflies. Although not fenced off, large areas are relatively untrodden, with long grass, nettles, wildflowers, scrub and taller trees. The Wilderness/Deer Enclosure and Covered Reservoir with its grasses and wildflowers (both of which have no public access) as well as the more exposed acid grassland of Crooms Hill are also valuable habitats for a range of butterflies. For a fuller description of the habitats concerned, please refer to Burton (2001) or Freed (2006, for Greenwich Park).

Blackheath and its butterflies have benefited from a more enlightened management regime regarding acid grassland, with for example late grass-cutting which allows wildflowers to set seed, and meadows -particularly on the Greenwich side near Hyde Vale and long strips of infrequently-mowed acid grassland on the Lewisham side. Raised bunds, hosting plants such as viper's-bugloss, common toadflax and common bird's foot trefoil, surround much of the perimeter, although some are sown with a wildflower mix that is less suitable for the location. At Hyde Vale's butterfly bank and Vanbrugh Pits, good numbers of grassland and woodland edge species fly in July and August, given suitable weather. Within the flat open grassland, Whitefield's Mount, a small island of cover which includes an isolated seasonal pond with broom and gorse nearby, is also often productive for butterflies.

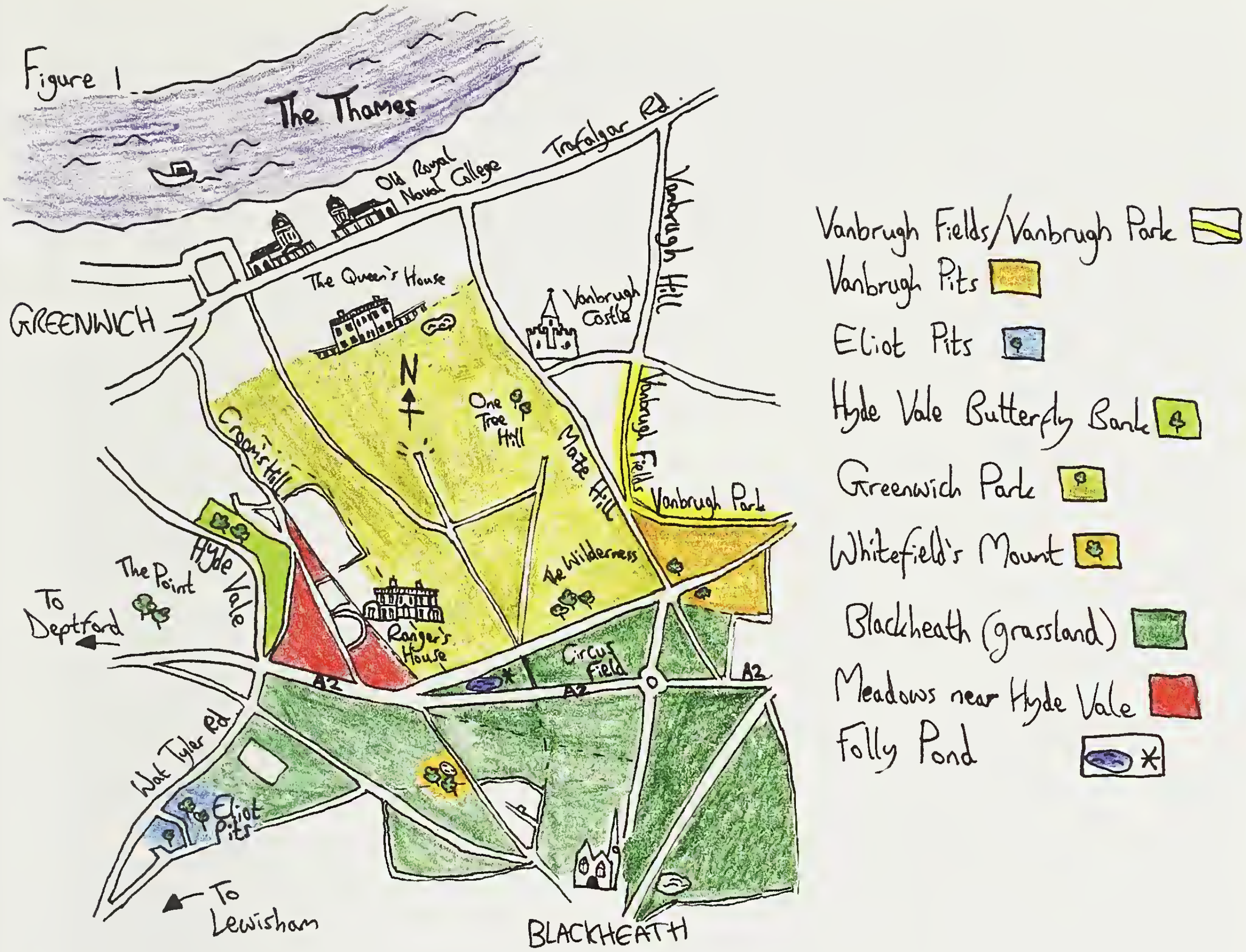
A number of studies have been conducted on the area's butterflies, notably by John Burton and Dr Tim Freed, and this paper makes frequent references and comparisons to these. There inevitably remain gaps in knowledge for recent years, particularly since 2010. Building on Burton and Freed (2009), as well as Freed's (2006) 2004-2006 Greenwich Park survey of Lepidoptera, it is hoped the current paper can help fill in these gaps by indicating which butterflies currently occur in the area and their abundance. The species accounts below mainly take the form of summaries and totals, with highest counts for particular areas and first and last dates given. More detail is given for some species, particularly for less common species or those whose status has changed in recent years.

I have basic, albeit somewhat inconsistent, notes from my teenage years in the mid-nineties to the turn of the century, and more detailed notes from 2010 onwards. I have excluded any data which I consider to be unreliable due to youth, plus any butterflies not specifically identified, including "small skipper species".

Species observed between 2010 and May 2015 are listed below and sightings refer to adult butterflies and moths unless otherwise stated. The main focus is on 2014, the year for which I have the most data, but observations up to 1 May 2015 are also given. Some last-minute sightings from May to early July 2015 are given where they are considered useful and informative, for Essex skipper, brown argus, ringlet, marbled white, latticed heath and horehound long-horn. Five of these species are either noteworthy locally or have changed their status in recent years, while a recent observation is added to help explain the situation regarding Essex and small skippers. Older notes (pre-2010) are also given selectively, for scarcer species or to help illustrate a change in status, to provide context or to add interesting details. For interest and to broaden the appeal of the paper I also provide brief notes on a selection of moths recently found in the area.

The sections visited or where sightings were reported from the area are divided into: Greenwich Park, Vanbrugh Pits/Vanbrugh Park, Vanbrugh Fields, Hyde Vale butterfly bank,

Figure 1



meadows near Hyde Vale and Blackheath. For the purposes of the "Observations and comments" section of this report only, "Blackheath" refers to the flat, open areas of grassland, including Whitefield's Mount. Please see Figure 1 for a map of the area under discussion. Other sites less often visited, such as Eliot Pits, are mentioned separately. An "occasion" or "record" is when a species was noted as present in one of these separate sections during a visit. Repeat visits during the same day to the same section are not counted here to avoid duplication.

Observations and comments

Small skipper *Thymelicus sylvestris*

COMMON RESIDENT, MAINLY IN GRASSLAND.

Only a fraction of the "small" skippers seen were identified to species, but when efforts were made to check, I recorded this species on ten occasions in 2014. Nine of these records were from Vanbrugh Pits, with the highest count of five on 20 July. One was observed in Greenwich Park on 29 June. The first 2014 record was on 21 June at Vanbrugh Pits and the latest was also at that location on 26 July.

Essex skipper *Thymelicus lineola*

COMMON RESIDENT SPECIES, MAINLY IN GRASSLAND.

Only a fraction of the "small" skippers seen were identified to species, but when efforts were made to check, in 2014 this species outnumbered Small Skipper by roughly 2:1. I recorded Essex skippers on twenty-two occasions, twelve of these in Vanbrugh Pits and three in Greenwich Park, with two records at Hyde Vale and five records at Blackheath. David Notton (pers.comm.) has confirmation of this species breeding on Blackheath. In 2014 the first I saw were on 20 June at Greenwich Park and Vanbrugh Pits, the last on 4 August at Vanbrugh Pits. The highest count was nine at Vanbrugh Pits on 19 July.

In 2013 my highest count was of around thirty on 23 July at Vanbrugh Pits (excluding any "small" skippers not specifically identified).

It is worth noting that small/Essex skippers can be very common in the long grass areas and those identified to species are only a fraction of the total. For example, on 6 July 2015 I counted over 150 small/Essex skippers across Vanbrugh Pits. Of a sample of thirty insects specifically identified, twenty-seven were Essex skippers. Both species may wander into nearby gardens.

Large skipper *Ochlodes sylvanus*

Fairly common resident.

I recorded this species in 2014 throughout the area on thirteen occasions. I saw it at Vanbrugh Pits on seven occasions, at Greenwich Park on three occasions, once at Vanbrugh Fields and on two occasions at Hyde Vale. I recorded large skippers from 16 June (at both Greenwich Park and Vanbrugh Pits) until 22 July (at Greenwich Park and Hyde Vale). The highest count was at Vanbrugh Pits: eleven on 21 June. Elsewhere the highest count was three at Greenwich Park on 22 July.

My first record in the area is of one at Vanbrugh Fields on 4 July 1993. Those recorded during Freed's (2006) survey of 2004-6 were the first for Greenwich Park since the early 1950s, though Burton and others recorded it commonly in the Park between 1946 and 1951 (Burton and Freed 2009). I saw one on 13 July 1995 in Greenwich Park's herb garden but as a teenager I didn't submit my sightings to any recorder. Burton (Burton and Freed 2009) also saw several in Vanbrugh Pits in 1989.

Clouded yellow *Colias croceus*

Uncommon visitor, during years when there is an influx into the UK.

At Blackheath, I saw a female ovipositing on common bird's foot trefoil on the bunds along Circus Field on 4 August 2014 and one was seen by David Notton on 19 October.

I saw singles on 5 August 1996 and 19 September 1998 (both Vanbrugh Fields area), 21 August 2000 (Vanbrugh Pits), 24 August 2000 (two; Vanbrugh Pits and Blackheath) and a male on 21 August 2013 (Blackheath, meadows near Hyde Vale).

Not noted by Burton and Freed (2009) as having occurred in recent years.

Brimstone *Gonepteryx rhamni*

Not common but seen from time to time, especially in spring.

In 2014 I recorded this species on nine occasions. These were at Vanbrugh Fields on 13-14 March, 16 March, 9 April (two imagines), 5 May and 26 July. I saw one at Vanbrugh Pits on 28 April and in Greenwich Park singles passed through on 21 April and 31 May.

In spring 2015, up to two were at Vanbrugh Fields on 6-12 and 20 April, one at Vanbrugh Pits on 6 April flew into Greenwich Park, one was at Vanbrugh Pits on 7 April and at adjacent Vanbrugh Park on 21 April.

Male Brimstone, Vanbrugh Fields, 20 April 2015. (Joe Beale)

My first sighting of brimstone in the area was one on 31 May 1995 at Vanbrugh Fields. After that, at Vanbrugh Fields I saw brimstone on eight occasions in 1996, four occasions in 1998, once in 1999 and twice in 2000. In 2007 I saw it once in Greenwich Park and again in Greenwich Park on two occasions in 2008. I saw it once at Vanbrugh Fields in 2010 and once at Vanbrugh Pits in 2012.

Large white *Pieris brassicae*

Common resident. Subject to occasional migratory influxes.

I recorded this species on at least eighteen occasions in 2014, from 13 April at Vanbrugh Pits until 16 September in Greenwich Park when "several" were seen. Four sightings were noted in April, one in June, nine in July, three in August and one in September. Of these, three sightings were at Vanbrugh Pits, nine at Vanbrugh Fields, three in Greenwich Park and three at Hyde Vale. David Notton (pers. comm.) noted larvae on perennial wall-rocket, a less usual foodplant.

Small white *Pieris rapae*

FAIRLY COMMON RESIDENT.

In 2014 I recorded small whites from 14 March at Vanbrugh Fields and thereafter in small numbers for much of the year.

Green-veined white *Pieris napi*

FAIRLY COMMON RESIDENT, SOMETIMES MORE NUMEROUS THAN THE PREVIOUS SPECIES.

In 2014 the first I saw was on 21 April at Vanbrugh Fields. My highest count was a minimum of six in Greenwich Park's Wilderness on 15 July 2014, including mating pairs. This species appeared commoner than small white in 2014.

Orange-tip *Anthocharis cardamines*

REGULARLY SEEN IN MODEST NUMBERS IN SPRING, MAINLY IN GARDENS.

In 2014 I recorded this species on eight occasions in the area. The first was one on 3 April at Vanbrugh Fields then on 10 April at Vanbrugh Pits, at Vanbrugh Fields on 13 April, 15 April, 26 April, 28 April (two) and 30 April. One was at Blackheath (near Greenwich Park's western border) on 28 April.

In 2015, I recorded up to two males and one female at Vanbrugh Fields frequently from 10 April until 1 May, when this article was completed, with a female ovipositing on purple

Male Orange Tip, Vanbrugh Fields, 28 April 2015. (Joe Beale)

Purple Hairstreak, Greenwich Park, 1 August 2014. (Joe Beale)

honesty plants on 27 and 28 April. On 20 April, I saw a male flying in Greenwich Park, east of the tennis courts (my first sighting within the Park).

My first record of this species in the area was on 27 April 1996 at Vanbrugh Fields. I had three records in 1996, eight in 1997, two in 1998, one in 1999 and one in 2000. In 2010 I had five records and in 2011 three records. In 2013 there were four records: 1, 6 and 16 May (Vanbrugh Fields) with a female ovipositing on purple honesty plants on 5 May.

Green hairstreak *Callophrys rubi*

Rare visitor.

David Notton (pers.comm.) saw one on Circus Field, Blackheath, on 17 May 2014. Previously, John Burton saw one in Greenwich Park's Wilderness on 26 May 1947 (Burton 2014).

Purple hairstreak *Favonius quercus*

Fairly common but elusive resident in tall oaks in Greenwich Park and nearby gardens.

In 2014 I recorded one purple hairstreak on 4 July at ground level beside Blackheath's Folly Pond (presumably from the nearby Park oaks), small numbers from 17 July 2014 at Vanbrugh Fields and one on 1 August in Greenwich Park, again low down, just the other side of the Park wall from the Folly Pond sighting.

My first record of this species in the area was on 23 July 1995 in a Vanbrugh Fields garden by old oaks. I regularly saw them around oaks there on summer evenings after that. 20 June 1999 was an early date and I recorded them into September in some years.

Small Copper, Vanbrugh Pits, 6 August 2014. (Joe Beale)

My highest count was of at least six on 20-21 July 2000.

Freed (2006) recorded it for the first time in Greenwich Park in 2004-6. Not listed by Burton and Freed (2009) for Blackheath.

White-letter hairstreak *Satyrium w-album*

SCARCE AND ELUSIVE RESIDENT IN ELM SCRUB.

Dusty Gedge (pers.comm.) saw one nectaring beside Hyde Vale in August 2013 and one was seen in a Blackheath garden on 30 July 2011 and 9 August 2011 (Beale 2011). Just outside the area, David Notton (pers. comm.) had one in his garden at Elverson Road, Lewisham, a few years ago. A UK Biodiversity Action Plan priority species.

Burton and Freed (2009) do not mention this species as having occurred in the area.

Small copper *Lycaena phlaeas*

FAIRLY COMMON RESIDENT, THINLY SPREAD AND SEEN IN ONES AND TWOS IN ROUGH GRASSLAND/ACID GRASSLAND. SOMETIMES WANDERS.

In 2014 this species was seen regularly in small numbers, from 14 May in Vanbrugh Pits to 31 October at the same location. I recorded it on thirty-nine occasions in 2014. These were two occasions in May, seventeen in July (from 12 July), ten in August, eight in September and two in October. At Vanbrugh Pits I saw it on twenty-one occasions in 2014, including an ovipositing female on 5 October. The highest count was of three there on 18 July. It was noted in Greenwich Park on ten visits from 26 July until 24 September and Hyde Vale on five occasions from 12 July until 4 August, with three other sightings

Brown Argus, Greenwich Park, 15 July 2014. (Joe Beale)

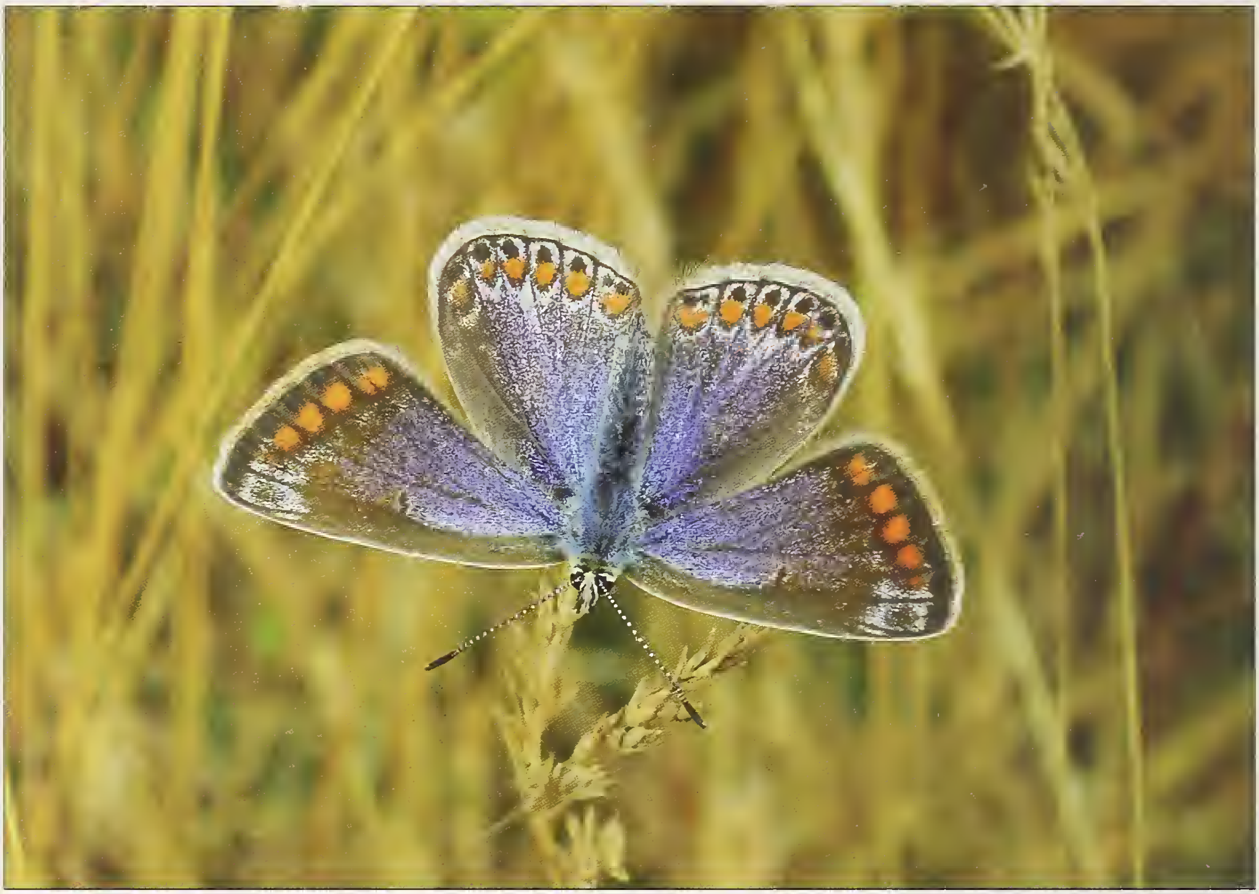
elsewhere on Blackheath (meadows near Hyde Vale on 19 July, Circus Field on 29 July, and Eliot Pits on 23 August).

Brown argus *Aricia agestis*

NOW RESIDENT, THINLY SPREAD BUT SEEN REGULARLY IN ONES AND TWOS, MAINLY IN ACID GRASSLAND.

In summer 2014 I recorded brown argus on seventeen occasions overall in the area, with observations as follows: Greenwich Park, 15 July in The Wilderness, and on 7 August (two), 9 September (three), 15 September (four) and 18 September (three) in the Covered Reservoir. Graham Dear, the Park Manager (pers. comm.) mentioned seeing this species in the Park's acid grassland at Crooms Hill. At Hyde Vale and adjacent meadows, seen on 12, 14, 19, 20 (two) and 22 July, 4 August (two) and 21 August. David Notton (pers. comm.) also recorded this species in 2014 during his surveying in Blackheath, earlier in the year. At Vanbrugh Pits, seen on 21, 28 (two) and 29 July, 7 August (two) and 11 August.

Brown Argus and meadow habitat, Blackheath near Hyde Vale, 12 July 2014. (Joe Beale)



Female Common Blue (unusually blue individual), Vanbrugh Pits, 14 August 2014. (Joe Beale)

In spring 2015 I saw one on 27 May at Hyde Vale.

The only record listed by Burton and Freed (2009) is one on 27 July 1859 in Greenwich Park.

Common blue *Polyommatus icarus*

Fairly common resident in grassland, but numbers fluctuate.

In 2014 the first two adults were seen on 18 May at Vanbrugh Pits and the last at the same location on 19 October. Throughout the whole area I recorded it on fifty-three occasions: three occasions in May, five in June, twenty-six in July, eleven in August, four in September and four in October. In Greenwich Park, I saw it on seven occasions in 2014 but never more than two at a time. At Vanbrugh Fields it was seen on 1 June and 3 August. At Hyde Vale this species was seen on seven occasions with the highest count of seven butterflies on 22 July. There were twenty-three sightings at Vanbrugh Pits, with the highest count there of ten on 21 July. Elsewhere on Blackheath I had fourteen sightings, with the highest count of eight on 29 July. Common bird's foot trefoil is widespread on Blackheath and common blue eggs were seen on several plants on less trampled areas such as the perimeter bunds of Circus Field.

In 2013 the highest count was of seven common blues in the meadows near Hyde Vale on 21 August, including a female ovipositing on common bird's foot trefoil. At least twelve were counted during a walk across the area on 26 August (two at Vanbrugh Park, about six in the meadows near Hyde Vale, two near Whitefield's Mount and two in Greenwich Park).

Chalkhill blue *Polyommatus coridon*

RARE VISITOR.

The only record I have is one male I photographed at thistle flowers at Hyde Vale on 14 August 2013.

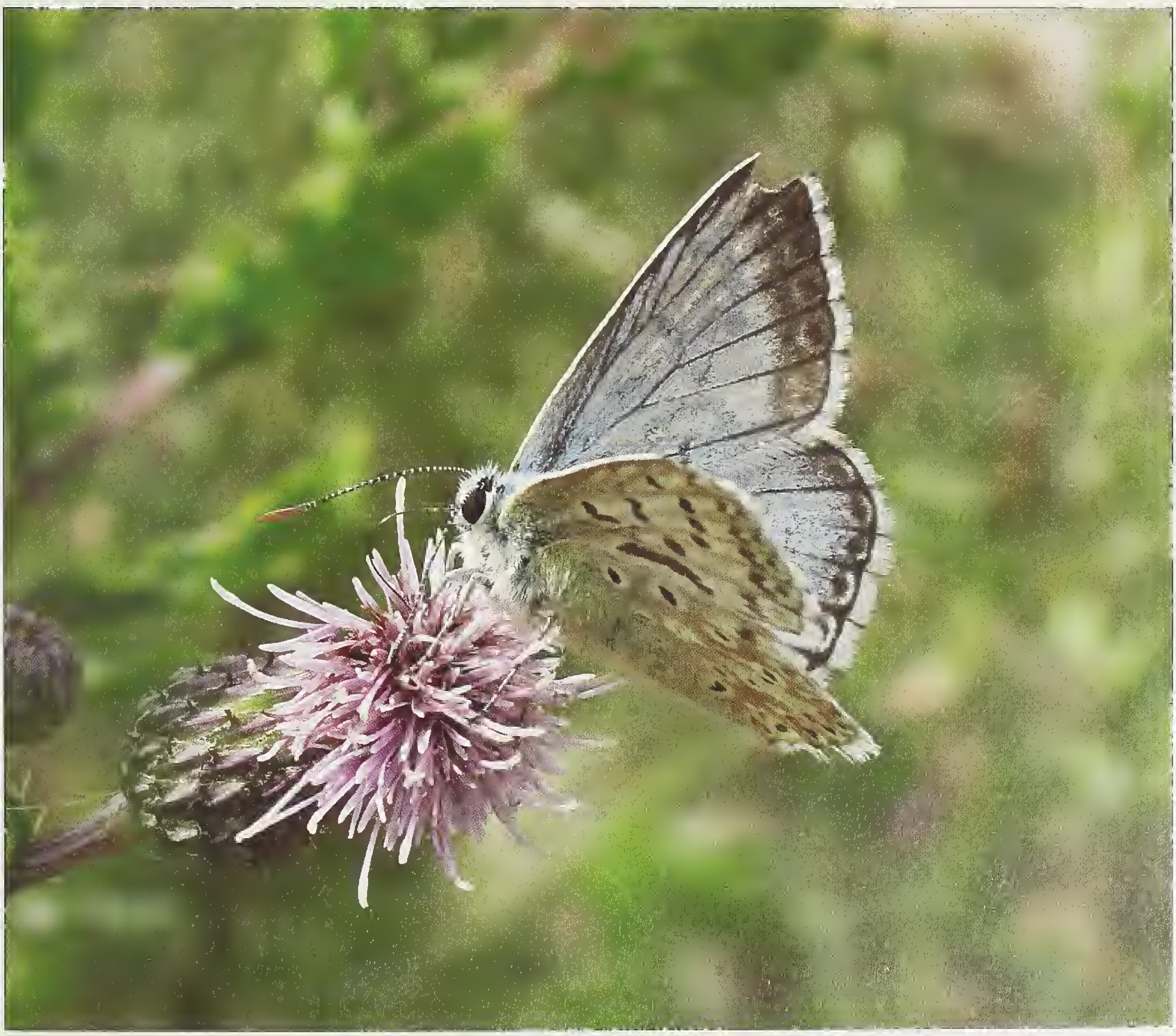
Not mentioned as having occurred in the area by Burton and Freed (2009). Thomas and Lewington (2010) state that males sometimes wander far from their colonies.

Holly blue *Celastrina argiolus*

COMMON THROUGHOUT THE AREA NEAR TREES AND BUSHES, BUT SUBJECT TO POPULATION FLUCTUATIONS.

My first sighting in 2014 was one at Vanbrugh Fields, where I had most records, on 9 April and the last was there on 31 October. I noted it as "common throughout the area" as of 21 April 2014, but it appeared less common later in the year. Thomas and Lewington (2010) offer a possible explanation -the holly blue's abundance is cyclical, decreasing when its parasite, the wasp *Listrodomus nycthemerus*, increases and recovering when the wasp's numbers subsequently crash. In spring 2015 the butterfly was again common in the area, with several seen most days.

Male Chalkhill Blue, Hyde Vale, 14 August 2013. (Joe Beale)



Red admiral *Vanessa atalanta*

Fairly common immigrant, with some adults present all year. Single butterflies are sometimes seen heading determinedly south on warm autumn days.

In 2014 I recorded red admirals on twenty-three occasions from late June. I saw it on six occasions in June, five in July, four in August, one in September and seven in October. Fourteen of these were seen in Greenwich Park (including an ovipositing female on nettles on 27 June), four in Vanbrugh Pits, two at Vanbrugh Fields and three at Blackheath. Highest counts were of two butterflies, noted on three occasions. The last record was of two at Greenwich Park on 27 October.

Painted Lady, Whitfield's Mount, Blackheath, 22 July 2014. (Joe Beale)

Apparent instances of migration include these sightings from 2011: in Greenwich Park, two headed south on 28 September, four went south in twenty minutes on 1 October and eleven headed south on 21 October.

Painted lady *Vanessa cardui*

Immigrant species, occasionally subject to substantial influxes. Typically a handful of sightings annually.

In 2014 one was at Greenwich Park on 29 June and one at Blackheath (Whitefield's Mount) on 22 July.

2014 stands in stark contrast to "invasion" years such as 1996 and 2009, when the species was very numerous. For example, on 25 May 2009 I noted them "everywhere". There were around twenty at any one time on a flowering, south-facing firethorn hedge of about eight metres length at Vanbrugh Park. At Greenwich Park's Ranger's Field I observed their migration for thirty minutes from 15:15, when I counted 135 heading north, low and across a broad front, in ones and twos -the equivalent of 250 to 300 per hour. Extrapolating from this small area and over the course of the day, it is clear very large numbers of butterflies were on the move. A second count there on 28 May 2009, for ten minutes from 14:38, produced thirty-eight butterflies moving steadily north, equivalent of some 230 an hour over this one spot.

Small tortoiseshell *Aglais urticae*

Resident in modest numbers, formerly common. Recently showing signs of recovery.

In 2014 I saw adults on twenty-seven occasions, between 8 March (Vanbrugh Park) and 12 July (Vanbrugh Pits), with five sightings in March, six in April to early May and sixteen from mid-June to mid-July. Six on 9 March at Vanbrugh Pits was the highest count. Three on 27 June at Vanbrugh Pits included a very small individual. Small tortoiseshells were noted at Vanbrugh Pits on thirteen occasions, Hyde Vale (once), Blackheath (four occasions), Vanbrugh Fields (two) and Greenwich Park (on seven occasions). Numerous larvae were seen on stinging nettles in Greenwich Park's Wilderness and the Queen's Orchard.

This species made something of a comeback in 2014. As of 2015 I have seen singles at Vanbrugh Pits on several dates since 23 March.

In 1991 small tortoiseshells were common, with for example one day alone (7 September) when six were at Vanbrugh Fields and ten at Vanbrugh Park on garden buddleias. In 1995 I saw small tortoiseshells on seventeen occasions, mainly around Vanbrugh Fields. In 1998 I saw them on eleven occasions, once in 1999 and once in 2000. There then followed some years when no records were kept by me but the butterfly experienced a well-documented decline. In 2011 I recorded this species once.

Peacock *Aglais io*

Fairly common resident.

In 2014 I recorded adult peacocks on nine occasions -three occasions in March, two in April, one in May and three in July. The first was on 14 March at Vanbrugh Fields and the last were two on 25 July at Blackheath (Whitefield's Mount). I never counted more than two or three at any one time. Many larvae were seen on stinging nettles in Greenwich

Peacock larvae, Greenwich Park, 11 July 2013. (Joe Beale)

Park (Ash Dell, Crooms Hill and the Queen's Orchard) and Vanbrugh Pits and in April 2015, adult peacocks were frequently seen.

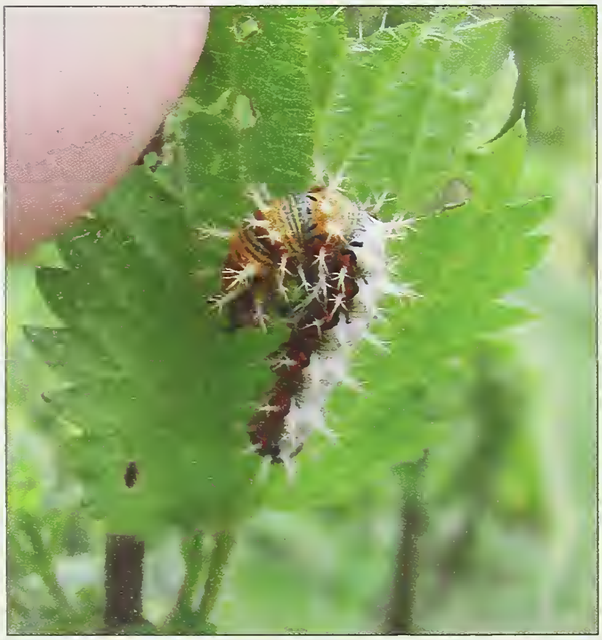
In 2013 in Greenwich Park (Ash Dell and One Tree Hill), numerous larvae were found, some later becoming pupae affected by parasitic flies.

Comma *Polygonia c-album*

Fairly common resident.

In 2014 I saw adults on eleven occasions across the year, from the first on 9 March at Vanbrugh Pits until the last on 1 October at Greenwich Park. This species was seen on three occasions in early- to mid-March, all at Vanbrugh Pits, on seven occasions from 21 June until 20 July (all Greenwich Park except Vanbrugh Pits on 21 June and Blackheath on 1 July) and once in early October (Greenwich Park). One large larva was found on stinging nettles in Greenwich Park's Wilderness on 15 July.

Many larvae and pupae, largely parasitised by chalcid flies, were seen on stinging nettles near Greenwich Park's Ash Dell in summer 2013.



Comma larva, Greenwich Park, 15 July 2014. (Joe Beale)

Silver-washed fritillary *Argynnis paphia*

Scarce visitor.

On 25 July 2010 and 4 August 2010 one was nectaring at a buddleia in a Blackheath

Marbled White, Vanbrugh Pits, 28 July 2012. (Joe Beale)

garden (Riley 2011). I saw one briefly on 16 August 2010 at Vanbrugh Fields. Just outside the area, one was seen by Conrad Ellam at the Orchard Estate, SE13 on 14 July 2014 (London Bird Club wiki).

Burton and Freed (2009) do not mention this species as having occurred in the area.

Speckled wood *Pararge aegeria*

COMMON RESIDENT IN MORE WOODED AREAS AND GARDENS.

In 2014 the first sighting I had was one at Vanbrugh Fields on 10 April and the last noted were four in Greenwich Park on 1 October. I have previously recorded this species well into November. Highest counts were ten in Greenwich Park on 22 July and four at Vanbrugh Pits on 20 May. The species was frequently seen throughout the flight period in shadier areas of Greenwich Park such as the Ash Dell, where several could be seen at one time on many occasions, and near the Wilderness, in Vanbrugh Pits near trees, and there were often one or two in the wooded patches of Hyde Vale.

Marbled white *Melanargia galathea*

UNCOMMON VISITOR, POTENTIAL COLONIST.

In 2014, David Notton (pers. comm.) saw one on 6 July at Vanbrugh Pits and I saw one at Hyde Vale on 19 July and 20 July, with James Lowen (pers. comm.) recording one there on 24 July. Outside the area, it was also recorded at the nearby Greenwich Peninsula Ecology Park. In 2015 one was at Hyde Vale on 26 June.

The first I saw locally was on 28 July 2012 in Vanbrugh Pits, my only sighting until 2014.

Burton and Freed (2009) do not list this attractive chequerboard butterfly.

Gatekeeper *Pyronia tithonus*

COMMON GRASSLAND RESIDENT, SOMETIMES SEEN IN LARGE NUMBERS.

In 2014 the first sighting was one at Vanbrugh Pits on 2 July and the last at the same site on 27 August. Within this period it was seen during most visits. The

Gatekeepers mating, Hyde Vale, 20 July 2014. (Joe Beale)

Left: Ringlet, Vanbrugh Pits, 21 July 2014. (Joe Beale)
Right: Small Heath, Vanbrugh Pits, 20 June 2014. (Joe Beale)

highest count was of ninety-seven at Hyde Vale on 22 July. At Vanbrugh Pits seventy-six were counted in thirty minutes in the two sections on 28 July. There were three double-figure counts on Blackheath. At Greenwich Park, the highest count was twenty-seven in fifteen minutes on 26 July. At Vanbrugh Fields, six on both 22 July and 27 July 2014 were the highest counts.

The highest count in 2013 was of c100 across Vanbrugh Pits on 27 July. In 2012 sixty-five plus were across Vanbrugh Pits on 10 August.

Meadow brown *Maniola jurtina*

Common grassland resident.

In 2014 the first was at Hyde Vale on 15 June and thereafter seen most days until at least 21 August at Vanbrugh Pits. At Greenwich Park, six at One Tree Hill on 26 July, in fifteen minutes, was the highest count. At Hyde Vale, twenty-eight on 19 July was the highest count. Elsewhere in long grass on Blackheath the highest count was of twelve on 29 July. At Vanbrugh Pits thirteen on 19 July was the highest count there.

Ringlet *Aphantopus hyperantus*

Resident, apparently fairly common.

In 2014 David Notton (pers.comm.) saw one in Eliot Pits on 6 July and I saw one there on 14 July. I saw singles in Vanbrugh Pits on 16, 17 and 21 July. In 2015 I recorded twelve on 1 July in Greenwich Park at One Tree Hill and observed this species there on several days thereafter. Three were at Hyde Vale Butterfly Bank on 5 July 2015, with one on 16 July, while two were at Vanbrugh Pits on 6 July.

Burton and Freed (2009) do not mention this species as having occurred in the area.

Small heath ***Coenonympha pamphilus***

RARE VISITOR.

I saw one in Vanbrugh Pits on 20 and 21 June 2014, my only records for the area.

Burton and Freed (2009) mention it being common in 1946-51 in the Wilderness of Greenwich Park and found in small numbers around Blackheath, but one in July 1970, in Blackheath Park, is the last record known to them. David Notton (pers. comm.) has not seen this species during his survey work on Blackheath over the last few years. A UK Biodiversity Action Plan species.

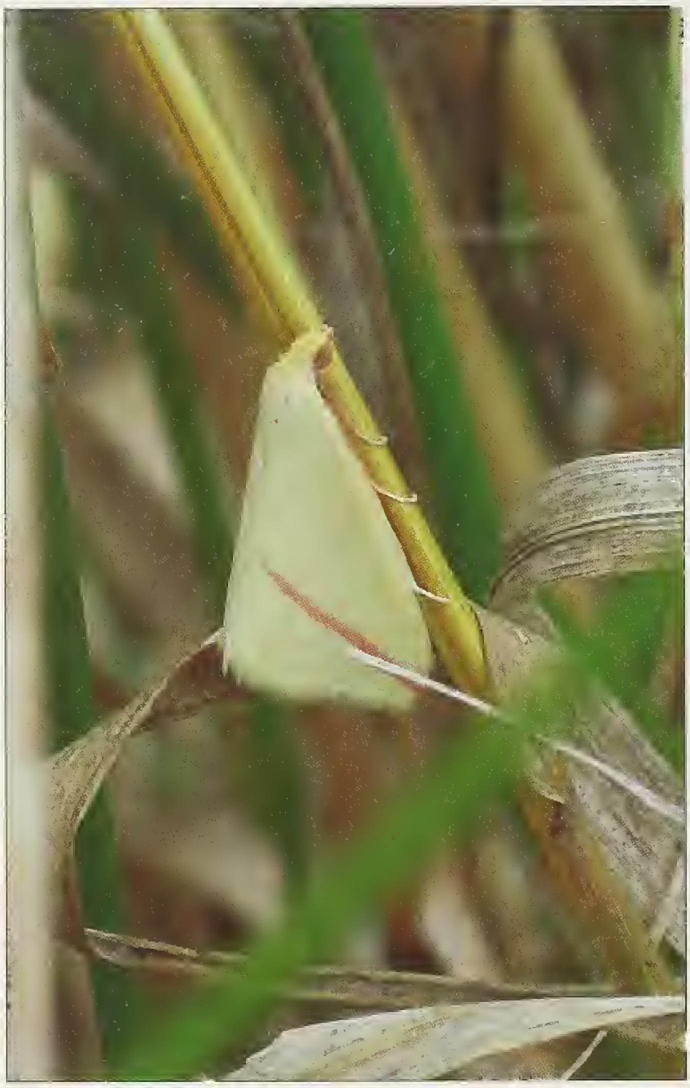
Other Lepidoptera recorded by day

While searching for butterflies day-flying moths are sometimes seen, along with the occasional nocturnal species discovered hiding or inadvertently disturbed. Here I summarise a selection of some recent sightings, mainly species that are scarce, distinctive or conspicuous. Nomenclature follows the UK Moths website http://ukmoths.org.uk/.

Six-spot burnet ***Zygaena filipendulae***

Six-spot burnets occur in the long grass areas, particularly at Hyde Vale and the adjacent long grass meadows on Blackheath. In 2014 I encountered the species on six occasions in July, with six on 22 July, nectaring at knapweed, my highest count.

Six-spot Burnets, Blackheath meadow near Hyde Vale, 19 July 2014. (Joe Beale)



Vestal moth, Vanbrugh Pits, 20 July 2014. (Joe Beale)

Yellow-legged clearwing *Synanthedon vespiformis*
Nationally Scarce B. Recorded in Blackheath and resident in Greenwich Park.

Hornet moth *Sesia apiformis*
David Notton (pers. comm.) found this species in Eliot Pits in 2014. Nationally Scarce B.

Vestal *Rhodometra sacraria*
In 2014 I saw one male of this uncommon immigrant at Vanbrugh Pits in long grass on 20 July. It was a bright individual with a pinkish cross-band on the wings, its hues suggesting it was an immigrant from southern Europe rather than further north (Waring and Townsend 2009). On 24 July James Lowen (pers. comm.) recorded one in his light trap in Blackheath Village.

Latticed heath *Chiasmia clathrata*
One on 25 May 2015 at Vanbrugh Pits. David Notton (pers. comm.) has not recorded it in the area.

Lime hawk moth *Mimas tiliae*
Fairly common resident. Interestingly, I saw the large ichneumon *Callajoppa cirrogaster* at Hyde Vale in August 2013: this species parasitises lime hawk moth larvae.

Broad-bordered bee hawk moth *Hemaris fuciformis*
On 23 June 2014 Chris Reen (pers. comm.) saw one in Dutton Street, Greenwich -outside the area, but near The Point on the western edge of Blackheath. Nationally Scarce B.

Hummingbird hawk moth *Macroglossum stellatarum*
Occasional visitor -immigrant. I saw singles on: 23 July 1992, 10 and 17 August 1996, 15 March 1999, 20 July 2010, 19 July 2011 and 10 March 2012, all at Vanbrugh Fields, and one on 21 August 2013 nectaring at buddleia by Greenwich Park's Flower Garden Lake. James Lowen (pers. comm.) saw this species in Blackheath Village in July 2010. The insects seen in March may have overwintered nearby.

Vapourer *Orgyia antiqua*
Common resident. Males are often seen in flight. Larvae have been found in garden shrubs close to the Park's eastern wall on 24 June 1999 and on oaks opposite Vanbrugh Pits on 4 August 2013.

Gypsy moth *Lymantria dispar*
A female beside eggs at Vanbrugh Hill on 9-10 August 2013. Populations resulting from releases or accidental introductions exist in London (Waring and Townsend 2009).

Jersey tiger *Euplagia quadripunctaria*
Common resident, having spread to south London since about 2004 (Waring and Townsend 2009). Commonest in late July-late August when they are seen almost daily. Many of those seen are of the yellow *lutescens* form. A nationally notable species.

Cinnabar *Tyria jacobaeae*
Common resident. The conspicuous larvae are often found on ragwort, especially at Vanbrugh Pits and Hyde Vale. A Biodiversity Action Plan species, having undergone a significant decline over the last 35 years (http://jncc.defra.gov.uk/).

Toadflax brocade *Calophasia lunula*
Resident. Formerly coastal, recently expanding its range. A rare Red Data Book species. Currently established in Greenwich Park, larvae were first recorded there by Freed (2006) on common toadflax. Since 2014, larvae have also been found on several occasions on purple toadflax at Vanbrugh Fields and Blackheath.

Small ranunculus *Hecatera dysodea*
Recorded around Blackheath. Formerly extinct in the UK but has recently recolonised parts of southern Britain (Waring and Townsend 2009). A rare Red Data Book species. Conspicuous larvae feed on prickly lettuce.

Knot grass *Acronicta rumicis*
A mature larva found in Greenwich Park at One Tree Hill on 29 June 2014 was taken away to rear and the resulting imago released back there on 15 July.

Silver Y *Autographa gamma*
Common immigrant. Seen annually in variable numbers, occasionally abundant.

Mother Shipton *Euclidia mi*
Fairly common day-flying grassland species especially in the Vanbrugh Pits area, where David Notton (pers.comm.) has found larvae. Imagines occasionally found at Vanbrugh Fields.

Burnet companion *Euclidia glyphica*
Fairly common day-flying grassland species throughout the area, occasionally in gardens. In 2014, three at Vanbrugh Pits on 20 June was my highest count.

Straw dot *Rivula sericealis*
Resident in unimproved grassland, such as in Greenwich Park and Eliot Pits, Blackheath.

Yellow-barred long-horn *Nemophora degeerella*
Fairly common, around midsummer. Seen in large aggregations at times in Greenwich Park in May-June 2014 at the Ash Dell and One Tree Hill.

Horehound long-horn *Nemophora fasciella*
Resident. I saw one female in Greenwich Park on 15 June 2014 at One Tree Hill, amongst plentiful black horehound, the larval foodplant. In June 2015 I saw several males and females there with, for example, at least seven adults on 16 June. A scarce UK Biodiversity Action Plan priority species.

Green long-horn *Adela reaumurella*
Fairly common resident. Many were around hawthorns in April 2011 at Vanbrugh Pits, where adults were noted in spring 2015.

Discussion

Twenty-nine species of butterfly were recorded in Greenwich Park and Blackheath between 2010 and May 2015. Of those twenty-nine, all occurred in Blackheath on the Royal Borough of Greenwich side. Most were seen on the Lewisham Borough side of Blackheath as well. In Greenwich Park, twenty-one species were seen within that same period (with twenty-two species by 1 July 2015, following the recent Park sightings of ringlet). To compare, Burton and Freed's (2009) paper lists twenty-eight species for the whole area from 1800 to 2009, with twenty-six of these in Greenwich Park. As of 1 July 2015, with this paper, thirty-three butterfly species have now been recorded for Blackheath and Greenwich Park combined, twenty-seven of which have occurred in Greenwich Park, since 1800.

Between 2010 and May 2015, five new species were added to Burton and Freed's (2009) list of butterflies for Greenwich Park and Blackheath. Those species were chalkhill blue, marbled white, silver-washed fritillary, white-letter hairstreak and ringlet. Of these, ringlet and white-letter hairstreak are apparently established and marbled white is increasingly seen and could yet become established. No new species were added to the Greenwich Park list until ringlet was confirmed in July 2015. One former resident (small heath) was seen in the area after a long absence and there were regular sightings of a number of less-recorded species, such as brimstone and orange-tip. Overall, the current picture for the area covered appears to be positive with several species colonising or returning alongside others that have remained steady.

Large skipper is certainly well-established now. Those large skippers recorded during Freed's (2006) survey of 2004-6 were the first for Greenwich Park since the early 1950s, apart from my unreported sighting in 1995. As there is suitable habitat there, they may have been overlooked in the years before Freed's (2006) survey. Burton recorded it commonly in the Park to 1951, although afterwards there was a possible decline (Burton and Freed 2009), but the map in Plant (1987) indicates its absence during 1980-1986 not only in the Greenwich Park area but also for most, if not all, of Greenwich Borough. The more sympathetic Greenwich Park management from the mid-nineties, leaving longer areas of grass and minimising mowing on some of the hillsides, may have encouraged this species to recover. Burton (Burton and Freed 2009) saw several in Vanbrugh Pits in 1989 during a brief visit and the species seems to have been present in Blackheath for some time.

Brimstones have never been common since I have lived in the area but have been seen most years since 1995. John Burton only rarely saw them in the area in the late 1940s (Burton and Freed 2009), although Plant (1987) does show them as occurring elsewhere in Greenwich and Lewisham Boroughs during 1980-1986. Most of my sightings are from the gardens east of Greenwich Park. The larval foodplants, buckthorn and alder buckthorn, are not present in Greenwich Park (Michael Loughnane, Assistant Manager, pers. comm.) so there may be little incentive for wandering brimstones to linger within the Park's walls.

The orange-tip is these days regular and breeding, though not common, in Blackheath. Although they do mention more recent sightings in the Blackheath area, Burton and Freed (2009) list no Greenwich Park sightings after 1948 and Plant (1987) states that the orange-tip "seems to be absent today" from the Lewisham and Greenwich Park areas (p.73). These days, my April 2015 record and regular sightings very close to the Park boundary suggest that this species occasionally wanders into the Park.

The 2014 green hairstreak was presumably a vagrant individual, although suitable habitat does exist at Vanbrugh Pits. Before this, John Burton saw one in Greenwich Park's Wilderness on 26 May 1947, "the only one" he had ever seen in the Park (Burton 2014, p.167). Burton suggests that individual may have strayed from Shooters Hill. Burton and Freed (2009) write that it "certainly no longer breeds" in the area, "if it ever did so" (p.146).

Freed's (2006) purple hairstreaks in Greenwich Park were the first for that site. Burton and Freed (2009) do not find any earlier records or any for Blackheath, but I have had regular sightings at Vanbrugh Fields since 1995. Freed (2006) suggests purple hairstreak may well have simply eluded detection in Greenwich Park for many years before those found during his survey, although Plant's (1987) map for this species shows no records for 1980-1986 in the area of Greenwich Park. This species likes to fly around the tops of oaks in the evening and observers may not be looking for butterflies so high up and so late in the day.

White-letter hairstreak is presumably using the numerous suckering elm trees in Blackheath as a larval foodplant. I have never, despite searching, had the good fortune to see it locally. Interestingly, larvae have apparently been regularly found on elms in Plumstead, not far away (comment below http://www.bexleywildlife.org/). Burton and Freed (2009) do not mention this species as having occurred in the area and Plant (1987) indicates this species was unrecorded from both Lewisham and Greenwich Boroughs between 1980 and 1986.

Small coppers use the locally common sheep's sorrel -a characteristic plant of the low-nutrient acid grassland of much of Greenwich Park and Blackheath- as a larval foodplant. Butterfly Conservation (http://butterfly-conservation.org/50-778/small-copper.html) notes this species as having undergone a nationwide decline. Blackheath and Greenwich Park's extensive acid grassland areas are therefore important locally for this beautiful species.

Brown argus is now seemingly established in Blackheath and Greenwich Park's unimproved grasslands and yet had apparently not been seen here since as far back as 1859 (Burton and Freed 2009). Plant's (1987) map shows it was restricted mainly to the southern edges of the London area in 1980-1986 and absent from both Lewisham and Greenwich Boroughs. According to Thomas and Lewington (2010) this species has since spread north from its southern colonies, where its larvae mainly used common rock-rose, to recolonise much of England in the past two decades. This has, they suggest, been enabled by warming temperatures that helped it to adapt to using doves-foot crane's-bill and common stork's-bill (common and widespread plants) as foodplants. Freed commented in 2006 that "there is the prospect of… Brown Argus *Aricia agestis* becoming established" in Greenwich Park, as suitable foodplants are found there (2006, p.29). It seems that this is exactly what has since happened. In Greenwich Park and Blackheath, more enlightened management of acid grassland areas and relaxed mowing regimes will have provided colonising butterflies with suitable habitat.

The small tortoiseshell, having been scarce locally for several years, is showing promising signs of a recovery and may yet return to its mid-nineties levels when it was a common sight. Williams (2014) notes that this species declined in London from about 2000 but that the index for 2013 was the best since 2005.

Butterfly Conservation notes that silver-washed fritillary "has spread noticeably during recent decades" despite a 20th-century decline (http://butterfly-conservation.org/679-780/). Back in 1980-1986 the distribution map in Plant (1987) shows this species as unrecorded in Greenwich and Lewisham Boroughs between 1980 and 1986 and largely restricted to the outer London Boroughs. This impressive butterfly's subsequent spread accounts for the handful of recent Blackheath sightings.

Plant's (1987) map shows marbled white as unrecorded from Lewisham and Greenwich boroughs and restricted to the fringes of the London area between 1980-1986. More recently, however, this species has moved from the countryside to colonise some urban green spaces in London (Williams 2014). Indeed, according to Butterfly Conservation, the marbled white has expanded its distribution northwards and eastwards by 11% since the 1970s (http://butterfly-conservation.org/679-866/). The recent sightings in the Blackheath area reflect this increase in range and Blackheath, with its areas of unimproved grassland habitat, could allow it to become established there.

The ringlet is apparently established these days in grassland/wooded edge habitat. The recent sightings are surely a result of the recent increase in the London area (Williams 2014, for example). In neighbouring Bexley this species has apparently colonised many sites within the last three years (Rose 2014). In contrast, Plant's (1987) distribution map shows no records for Lewisham or Greenwich Boroughs for 1980-1986 and indicate that ringlet was then largely a butterfly of London's outer Boroughs.

Some of those listed by Burton and Freed (2009) as having occurred in the area but not found in recent years are represented by single wandering individuals from colonies further afield - for example, dark green fritillary *Argynnis aglaja* (one in July 1945) and grayling *Hipparchia semele*, which is on their list due to one caught by John Burton on Blackheath on 28 August 1947 (Burton and Freed 2009). Interestingly, de Worms (1950, cited in Plant 1987) suggests grayling was common at Blackheath in 1946 and 1947. On the other hand, one species - the wall brown *Lasiommata megera* - was once common but has declined nationally and has apparently not been recorded at Greenwich Park and Blackheath in recent years (Burton and Freed 2009), although maps in Plant (1987) indicate it occurred in that approximate area during 1980-1986 at least.

With a changing climate, it is worth looking out for rarities. 2014 saw an unprecedented influx of yellow-legged tortoiseshells *Nymphalis xanthomelas* to Britain, while immigrant continental swallowtails *Papilio machaon gorganus* have recently bred in southern England and could feasibly occur. Perhaps one of the more likely of the outside chances is long-tailed blue *Lampides boeticus*, which occurred in some numbers in 2013 and got as far as Deptford Creek on 18 September 2013 (Butterfly Conservation, 2013). There is certainly plenty of broom on Blackheath for it to lay eggs on, with broad-leaved everlasting-pea found in Eliot Pits and bladder-senna in nearby gardens all suitable foodplants.

There have been huge changes in habitat and ongoing increasing urbanisation of surrounding districts, with the area now surrounded by built-up areas and the countryside pushed further out from London (Burton 2001, for example). This might be expected to hinder colonisation or recolonisation for many species, but it appears that some, such as brown argus and ringlet, have made it through anyway, perhaps assisted by a combination of warming climate and the corridors of unimproved and unmowed grassland that councils and parks have begun leaving. Greenwich Park's sympathetic management -for example One Tree Hill's long grass and scrub -provides good wildlife habitat and adds to the patchwork of such sites across the Blackheath area. Other species have been helped by the many gardens in the area, although these are increasingly eroded by development and the trend for stone driveways or decking.

According to David Notton (pers. comm.) who has been surveying insects, primarily Hymenoptera, on Blackheath "a great many butterflies and also many night flying moths use ragwort for nectar, more than half of my flower visit records are for ragwort". Indeed, in summer the largest numbers of nectaring butterflies I see are on common ragwort flowers. The two local councils have recently adopted a more nuanced approach, no longer pulling it up en masse regardless of the impact on biodiversity, but concentrating on specific areas where it may detrimentally affect fine grasses and leaving swathes where they do no harm. Natural control by the larvae of the cinnabar moth -a species now in nationwide decline- could also help manage this native plant. Unfortunately the stigma surrounding ragwort, based on potential problems in rural areas with grazing animals, remains, with unauthorised individuals uprooting or cutting large amounts every summer.

The efforts of the Greenwich Park management team and the Blackheath Joint Working Party - who discuss sensitive management of Blackheath - and willing council teams, try to take account of biodiversity by allowing wilder areas to exist, mowing infrequently in certain areas, creating meadows and wildlife corridors and preserving acid and unimproved grasslands. Some long grass is left all year on Blackheath. More people are becoming used to seeing areas of long grass and wildflowers rather than just bowling green-style lawns and are starting to see the aesthetic charms of such meadows. For example, these meadows provide colour and movement and can help screen the heavy traffic on the busy A2 that bisects the flat, open Heath from people sitting on the grass. People are also becoming - slowly - more aware of the surprisingly rich biodiversity on their doorstep.

The exact habitat management regime for Blackheath is still being explored and experimented with. This faces the perennial challenge of taking into account the huge and increasing public pressure on the area, with daily activities such as dog-walking and sports as well as major events such as the London Marathon and numerous smaller fairs and circuses every year and the associated trampling and nutrient enrichment. Some of these issues are also faced by Greenwich Park, but the Park benefits from certain areas having no or reduced public access and no access at night. One other management issue facing Blackheath is that of scrub encroachment. For example, invasive non-native holm oak, turkey oak and suckering cherry trees (David Notton, pers. comm.) shade out the grasses and enrich the soil, consequently reducing the open areas and short acid grassland and the attendant Lepidoptera populations. This is especially an increasingly serious issue for Vanbrugh Pits with its relict heathland flora, rare bees, rare ground lichen community and grassland butterflies. At some stage this threat will have to be managed, perhaps by teams of volunteers with permission from the relevant council to remove invading saplings. This would have the added benefit of removing excessive screening which currently encourages antisocial activities such as fly-tipping, dog-fouling and arson.

As the local population increases, and countless small pockets of green space and so-called wasteland are developed or tidied, both public awareness and the more enlightened but still-evolving management regimes for Greenwich Park and Blackheath will become ever more important. The needs of biodiversity will have to be managed ever more carefully alongside the increasing pressures on these remaining urban green spaces for events and recreational use. Should the sensitive local habitat management policies continue, aided by a number of dedicated volunteers and interested locals, then there is nonetheless cause for optimism that butterflies and other Lepidoptera will continue to do well in this green island in south-east London.

Acknowledgements

I wish to thank those who have contributed their observations, David Notton for offering helpful suggestions on an early draft and Leslie Williams for his invaluable feedback.

References

BEALE, J. 2011. Butterflies in the Vanbrugh Park area, Blackheath. *Kent Branch Newsletter* **77**: 20-21. Butterfly Conservation.

BURTON, J.F. 2001. A history of the vertebrate fauna of Blackheath and Greenwich Park, 1850-1999. *Lond. Nat.* **80**: 43-98.

BURTON, J.F. 2014. *Grey daggers and minotaurs in Greenwich Park*. Independent Publishing Network, London.

BURTON, J .F. and FREED, T.H. 2009. The Lepidoptera of Blackheath and Greenwich Park, 1800-2009. Lond. Nat. 88: 117-184.

BURTON, J.F. 2013. The wildlife of the south-east London suburb of Charlton. *Lond. Nat.* **92**: 55-79.

BUTTERFLY CONSERVATION 2013. *Kent Branch annual butterfly report 2013*. Butterfly Conservation.

DE WORMS, C.G.M. 1950. The butterflies of London and its surroundings. *Lond. Nat.* **29**: 46-80. In PLANT, C.W. 1987. *The butterflies of the London Area*. London Natural History Society.

FREED, T.H. 2006. *Greenwich Park, North West Kent (V.C. 16): Lepidoptera baseline survey 2004-2006*. The Friends of Greenwich Park and the Royal Parks.

PLANT, C.W. 1987. *The butterflies of the London area*. London Natural History Society.

RILEY, M. 2011. Encounters with silver-washed fritillaries in 2010. *Kent Branch Newsletter* **76**: 16-17. Butterfly Conservation.

ROSE, C. 2014. *Checklist of the butterflies of the London Borough of Bexley*. https://app.box.com/shared/static/mq2t3341e3yy7b5ckh9i.doc

THOMAS, J. and LEWINGTON, R. 2010. *The Butterflies of Britain and Ireland*. British Wildlife Publishing, Gillingham, Dorset.

WILLIAMS, L.R. 2014. London butterfly monitoring report for 2013. *Lond. Nat.* **93**: 151-165.

WARING, P. and TOWNSEND, M. 2009. *Field Guide to the moths of Great Britain and Ireland*. British Wildlife Publishing, Gillingham, Dorset.

http://www.bexleywildlife.org/bexley-butterfly-highlights-of-2014/
http://butterfly-conservation.org/679-866/marbled-white.html
http://butterfly-conservation.org/679-780/silver-washed-fritillary.html
http://butterfly-conservation.org/50-778/small-copper.html
http://jncc.defra.gov.uk/_speciespages/2679.pdf
London Bird Club wiki: http://londonbirders.wikia.com/wiki/July_2014
UK Moths: http://ukmoths.org.uk/

RARE BUMBLEBEE MIMIC *POCOTA PERSONATA* REDISCOVERED IN LONDON

RUSSELL MILLER
16 John Campbell Road, London N16 8JZ.
RM@km551818.demon.co.uk

Abstract

Pocota personata is a rare hoverfly and an excellent bumblebee mimic. Last recorded in London in Blackheath in 1966, it was seen at Abney Park Cemetery Nature Reserve in Hackney in 2013, 2014 and 2015. This paper details all known records for London and discusses the species' history and ecology.

Introduction

Pocota personata (Harris, [1780]) is a hoverfly (Diptera; Syrphidae) in the tribe Xylotini. It was first described by eighteenth century London entomologist and illustrator Moses Harris from a specimen taken at a window in Stepney, east London in August 1776 (Hobby, 1940). It is the only species of its genus in the UK. It is easily mistaken for a bumblebee due to its bands of fluffy black, yellow and white hairs. The species was designated Vulnerable (RDB2) (Shirt, 1987; Falk 1991) but recently re-designated Nationally Scarce (Ball and Morris, 2014).

Pocota personata is a deadwood species. The larvae develop in wet rot holes in old trees usually well above ground level. The species is reported to be associated with ancient woodland and wood pasture (Speight, 2011; Falk, 1991; Speight, 1989) but has been found to occur in isolated trees (Morris pers. comm.). It is often associated with beech trees *Fagus sylvatica* but it has also been found in or around ash *Fraxinus excelsior*, poplar *Populus*, sycamore *Acer pseudoplatanus*, horse chestnut *Aesculus hippocastanum* and elm *Ulmus* (Hobby, 1940; Shillito, 1947; Rotheray, 1991 and Alexander, 2005).

Although rarely seen, it is widely distributed in England with a few records on the Welsh borders, but there are no records in Scotland or Ireland. After 1776, the next London records are from 1939 at Hampstead Heath and Richmond Park (Hobby, 1940). A female was taken at Joydens Wood, Bexley in 1945 and in 1947 41 hatched out from larvae collected from a single beech tree in Epping Forest (Chandler, 1969; Shillito, 1947). A.W. Jones recorded it at Wimbledon Common in 1951 and there is a record from Trent Park in 1959 (Morris pers. comm.; NBN, 2015). A.A. Allen recorded a mating pair at Blackheath in 1964 and the last recorded sighting in London was also by A.A. Allen at Blackheath in 1966 (Chandler, 1969; Plant, 1986). It was recorded outside London at Malling Down in Kent in 1985 and continued to be recorded at Windsor in Berkshire, but the author has been unable to trace any further records for London (Shillito, 1947; Payne, 1973; Plant, 1986; Payne, 2008; Payne, 2012; Hoverfly Recording Scheme, 2015).

Pocota personata was rediscovered at Abney Park Cemetery Nature Reserve, Stoke Newington in May 2013. It has been seen there again, several times in May 2014 and again in May 2015. The significance of the species' rediscovery, close to its first recorded

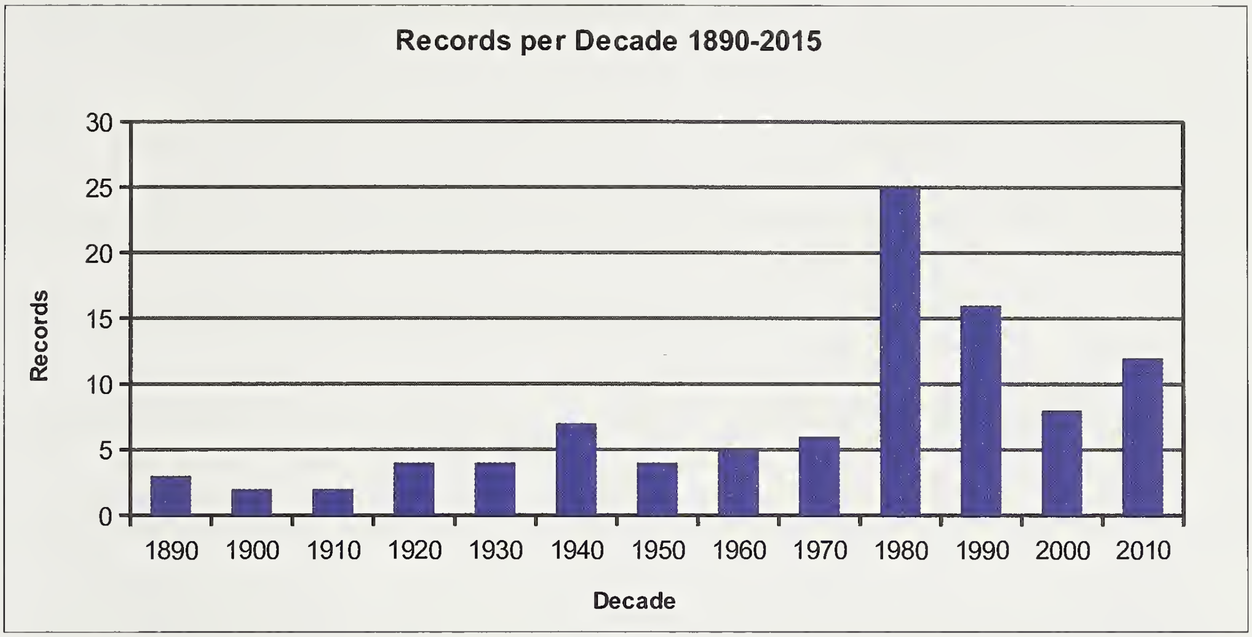


Figure 1: British records for Pocota personata *grouped by decade, 1890 - 2014. The 2010 decade only represents years 2010 to 2014. Data from NBN Gateway and other sources (see Table 3 for details).*

location, is discussed as are its specific ecological and habitat requirements.

Recording and Distribution

Unfortunately data from the national Hoverfly Recording Scheme were unavailable during the months this article was in preparation, so analysis of national records here relies primarily upon records from the National Biodiversity Network (NBN) Gateway (see Table 3 for details). This is regrettable since NBN data are not as reliable as those held by most national recording schemes, the latter conducting their own verification and data filtering. However, some broad observations are possible and the data for London (Table 1) are robust, having been checked at source by the author.

The chart of British records by decade (Figure 1) shows an increase in records since 1970 with a peak in the 1980s. This is likely to reflect better recording, rather than an increase in abundance. By contrast records for London (Table 1) have been decreasing and only the Abney Park records give any reason for optimism. Without the Abney records there is a significant decline in London records (Figure 2); this at the same time that recording appears to have improved nationwide. Some caution is required before jumping to conclusions since the London records are a small dataset with a total of only 24 records in 75 years (1939-2014). Most significantly, there are currently very few people recording Diptera in London (Morris, pers. comm.) so the chart reflects recording effort more accurately than species abundance.

Pocota personata is almost certainly under-recorded. A variety of factors militate against recording on a par with many other hoverfly species. First, there is the species' excellent mimicry which means some casual observers assume it to be a bumblebee. Indeed, that is precisely what the author did when first encountering the fly in 2013. Ball and Morris (2014) suggest the species' early and short flying season may also contribute

Site	Grid Ref.	Date	Recorder	Association	Source
Stepney	TQ3581	Aug 1776	Harris, M	window	Hobby, 1940
Hampstead Heath	TQ2686	18/05/1939	Allen, A.A.	beech	Hobby, 1940
Richmond Park	TQ2074	20/05/1939	Critchley, A.M.	clearing	Hobby, 1940
Bexley Woods	TQ4971	16/05/1945	Audcent	unknown	Chandler, 1969
Epping Forest	TQ49	11/04/1947	Shillito, J.F.	beech	Shillito, 1947
Epping Forest	TQ49	26/04/1947	Shillito, J.F.	beech	Shillito, 1947
Wimbledon Common	TQ2271	02/06/1951	A.W.Jones	unknown	Hoverfly Recording Scheme
Wimbledon Common	TQ2272	02/06/1951	A.W.Jones	unknown	Hoverfly Recording Scheme
Trent Park	TQ2897	16/05/1959	unknown	unknown	NBN Gateway
Blackheath	TQ4076	11/05/1964	A.A. Allen	elm?	Plant, 1986; Chandler, 1969
Blackheath	TQ4076	14/05/1964	A.A. Allen	elm?	Plant, 1986; Chandler, 1969
Blackheath	TQ4076	15/05/1966	A.A. Allen	elm?	Plant, 1986; Chandler, 1969
Epping Forest	TQ407990	May 2000	unknown	unknown	Essex Field Club, 2014
Abney Park Cemetery	TQ333868	16/05/2013	Miller, R.	clearing	Miller, R.
Abney Park Cemetery	TQ333868	05/05/2014	Miller, R.	ash	Miller, R.
Abney Park Cemetery	TQ333868	06/05/2014	Miller, R.	ash	Miller, R.
Abney Park Cemetery	TQ333868	09/05/2014	Miller, R.	ash & poplar	Miller, R.
Abney Park Cemetery	TQ333868	12/05/2014	Miller, R.	ash & poplar	Miller, R.
Abney Park Cemetery	TQ333868	14/05/2014	Miller, R.	ash	Miller, R.
Epping Forest	TQ4094	21/05/2014	Richardson, J.	beech	iSpot
Abney Park Cemetery	TQ333868	08/05/2015	Miller, R.	ash	Miller, R.
Abney Park Cemetery	TQ333868	10/05/2015	Miller, R.	ash	Miller, R.
Abney Park Cemetery	TQ333868	12/05/2015	Miller, R.	ash	Miller, R.

Table 1: Pocota personata *records for London and surrounding area. Records collated by R. Miller, June 2015.*

to under recording. Extreme records include 1st April 1980 and highly exceptional 1st August 1997 and 3rd September 1987 but these may be inaccurate, or be dates when larvae were collected or dead specimens found indoors. The penology graph (Figure 3) shows a clearly defined flight season of late April to mid June with a strong peak in May. An approximate flight season, based upon the average number of days between records in the 20 years for which there is more than one dated record, is 26.6 days.

The species' preference for rot holes in trees means it spends most of its time inside trees and even adults are often above the height at which most Dipterists are observing or sweeping. However adults occasionally visit flowers (e.g. hawthorn *Crataegus*) and some, especially females, have been recorded on the ground. The fact that the now almost ubiquitous tree bumblebee *Bombus hypnorum* also investigates cavities high in trees means magnification can be required to distinguish one from the other. Binoculars are a very useful observation aid when recording such a small insect at height.

Distribution

In their recent review of scarce and threatened Syrphidae, Ball and Morris (2014) conclude that *Pocota personata* is not threatened and change its designation from Vulnerable (Falk, 1991) to Nationally Scarce. They consider the national distribution data to indicate a stable population, with records from 36 hectads since 1980, but with a possible decrease in eastern England. The latter is attributed to uneven recorder reporting to the national

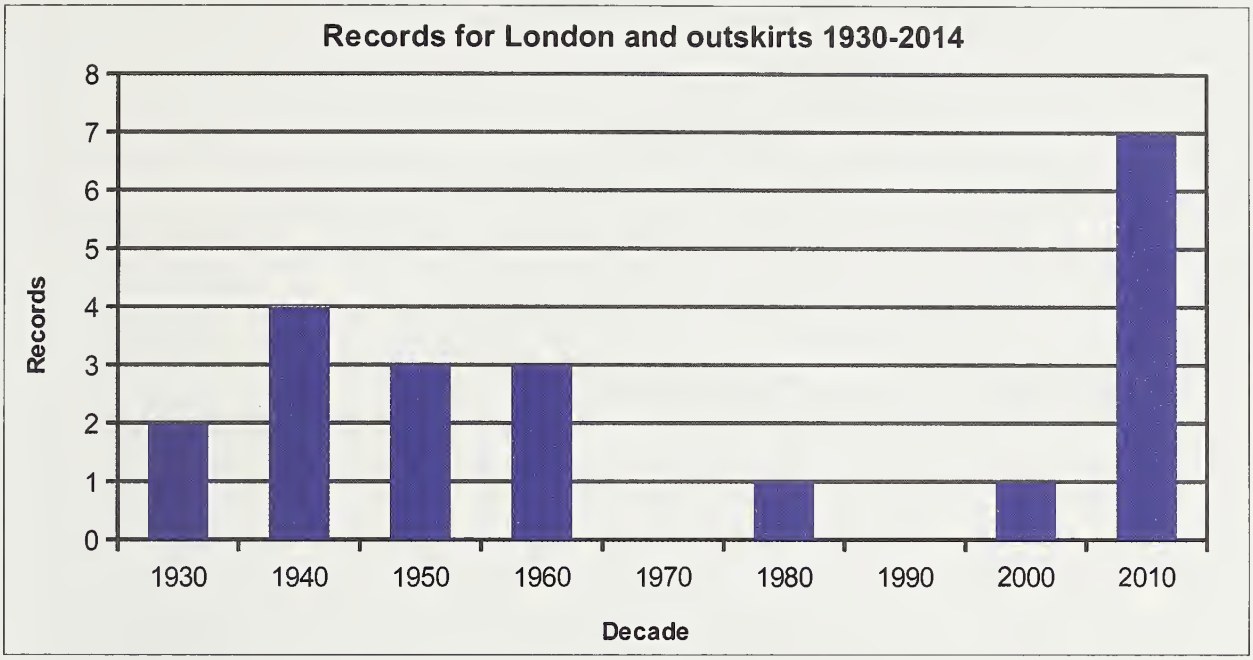
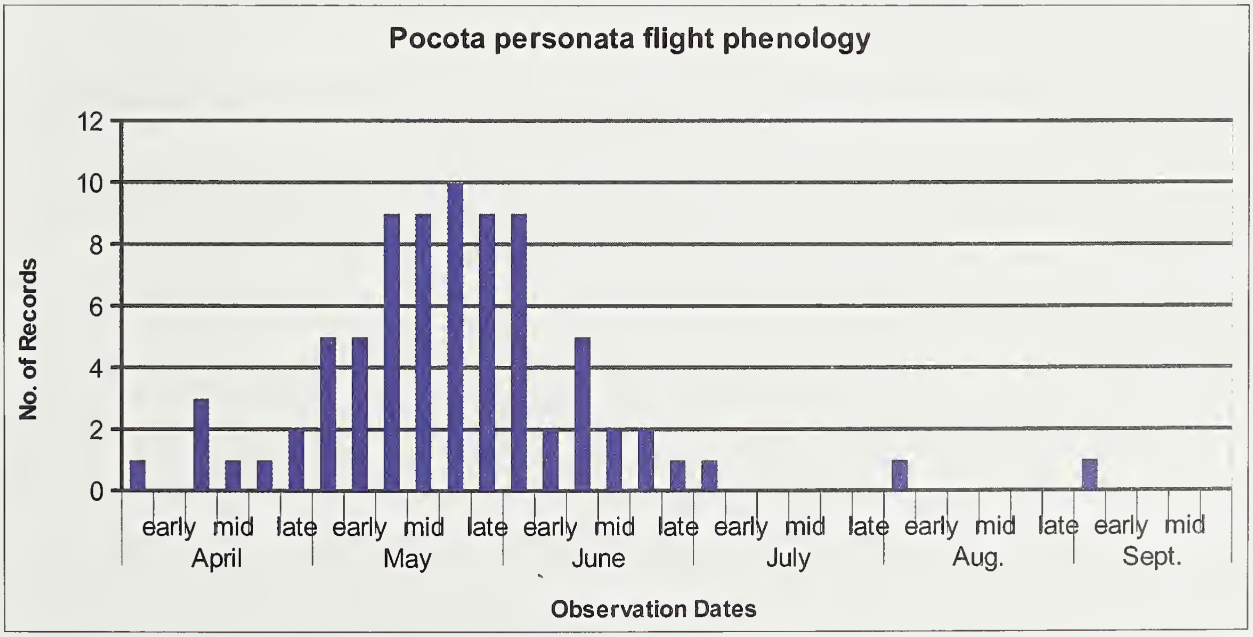


Figure 2 (above): Records for Pocota personata *in London and surrounding areas, grouped by decade, 1930 - 2014. The 2010 decade represents years 2010 to 2014. Data from NBN Gateway and other sources (see Table 1 for details).*

Figure 3 (below): British records for Pocota personata *grouped by observation date, data 1890 - 2014. Data from NBN Gateway and other sources (see Table 3 for details).*



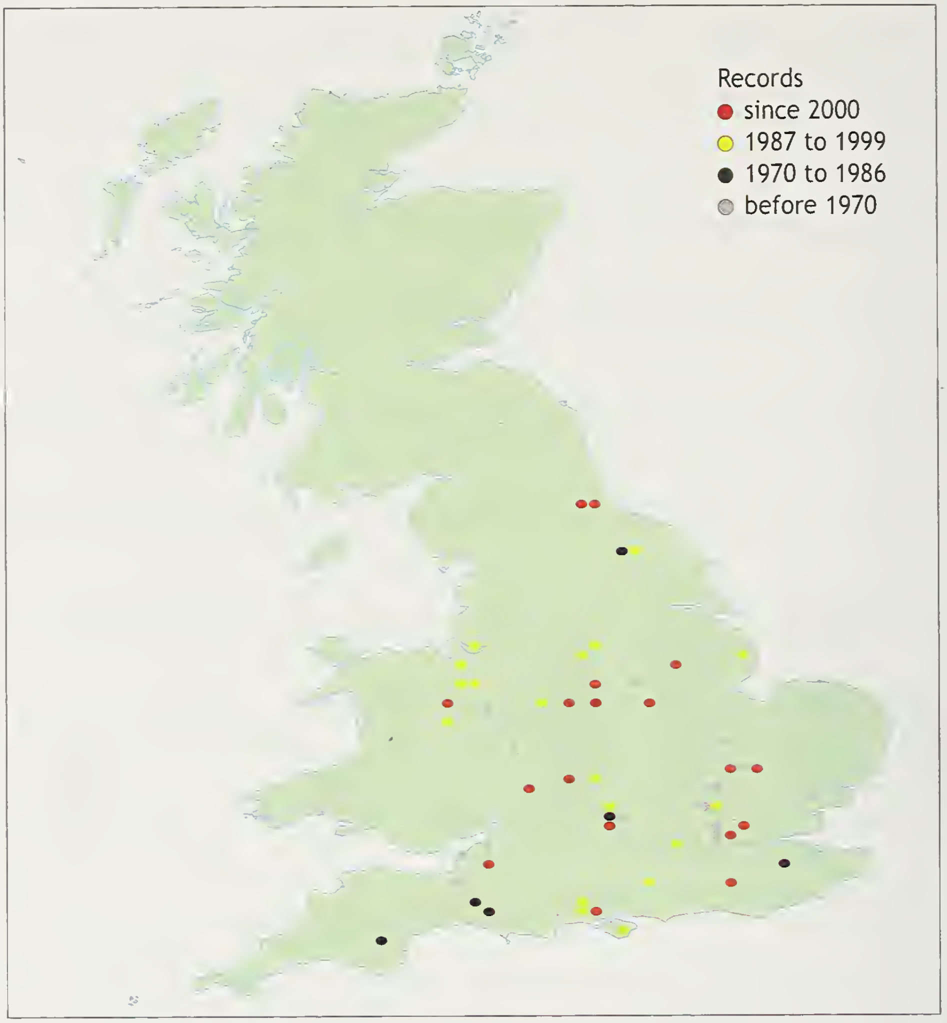


Figure 4: National distribution of Pocota personata. *Map created in MapMate from data from various sources (see Table 3 for data sources).*

Hoverfly Recording Scheme. They highlight threats to trees with suitable nest cavities, and continuity of this habitat as key to the species conservation.

The national and regional distribution data appear to tell different stories. The author has collated records and produced national and London distribution maps. The national map (Figure 4) appears to show a stable or even expanding range, in accordance with Ball and Morris's recent status review, but the London map (Figure 5) suggests a long standing regional contraction. The latter seems unlikely to be explained by non-reporting since the author cross checked various sources, including Greenspace Information for Greater London and Essex Field Club. There is a genuine decline in records for the London area and this decline dates from the 1960s, before the national recording peak illustrated in Figure 1. Surprisingly *Pocota personata* has not been recorded at any of the major London sites known for their old trees and saproxylic invertebrate fauna (e.g. Richmond Park, Bushy Park, Bookham Common, Hampstead Heath, Wimbledon Common) since Blackheath in 1966.

Abney Park Records, Behaviour and Ecology

Pocota personata was first seen at Abney Park on 16 May 2013. However it was not identified until the photograph taken by the author (stored under bumblebees) was examined closely. Armed with knowledge that the species was on site in 2013, when the author was surveying generally for invertebrates in May 2014, a curious looking 'bumblebee' resting on a veteran ash tree commanded attention. It proved to be another *Pocota personata* and observations over the following days proved very fruitful. A total of at least five individuals were observed over five days between 5 and 14 May (Table 2). Observations were not conducted every day during this period. At least one insect was present on the original tree every day observations were made. No further sightings were

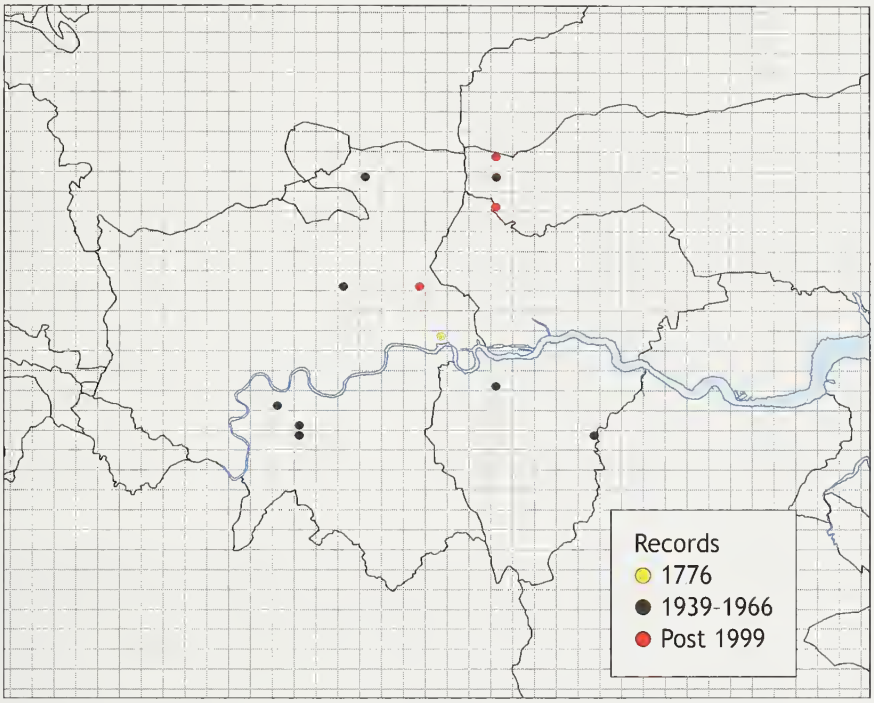


Figure 5 (above): London distribution of Pocota personata. *Red dots - centre Abney, upper Epping Forest. Map created in MapMate from data from various sources (see Table 1 for data sources).*

Table 2 (below): Pocota personata *records at Abney. Recorder and Determiner R. Miller. Identification confirmed by Roger Morris (2014) and Stuart Ball (2013) from photographs.*

Date	Trees	Height	Population
12 May 2015	T42	2-4 m	One on veteran ash T42. One insect (male defending territory?)
10 May 2015	T42	2-4 m	One on veteran ash T42. One insect (male defending territory?)
08 May 2015	T42	2-4 m	One on veteran ash T42. One insect (male defending territory?)
14 May 2014	T42	6 m	One on veteran ash T42.
12 May 2014	T42, T39	2-4 m	One on T42, another on T39.
9 May 2014	T549, T511, T42, T39	1.5-6m	3 on ash T42, at least one male and probably one female. One on ash T511 and T549 (same male?). One (male?) on dead poplar T39.
6 May 2014	T42	2-3 m	Single male, defending territory at 2-3m on veteran ash T42.
5 May 2014	T42	2-3 m	Single male, defending territory at 2-3m on veteran ash T42.
16 May 2013	n/a	0 m	Female on ground, identified from photograph, location not known.

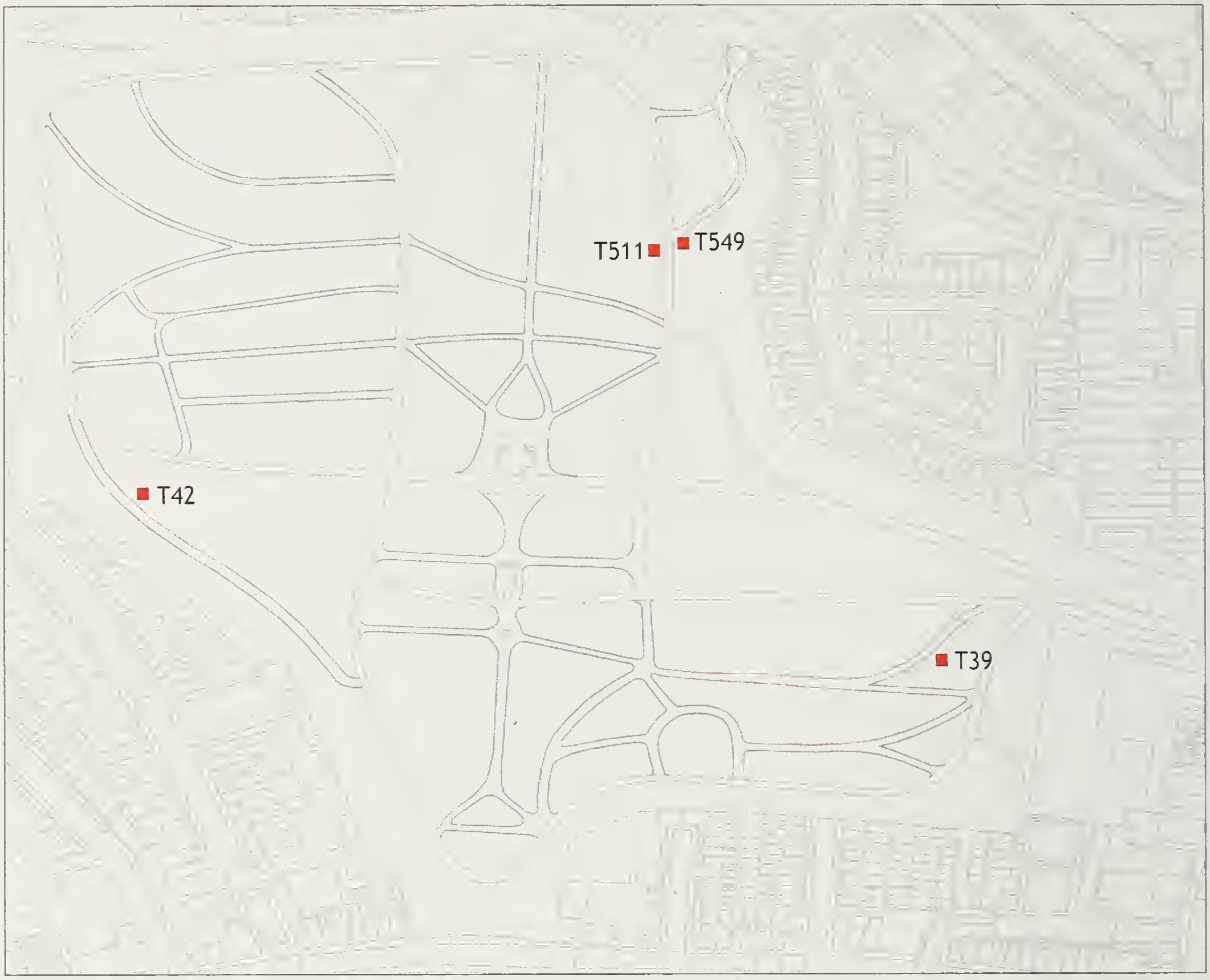


Figure 6: Map of Abney Park Cemetery showing distribution of veteran trees on which Pocota personata *was seen on 9 May 2014. Map courtesy of Treework Environmental Practice and London Borough of Hackney.*

made after heavy rain. The author's experience is that *Pocota personata* is not that hard to find once you know it does occur on a site. After the first observations on the old ash, on 9 May it took less than an hour to find insects in two other locations simply by observing likely looking trees through binoculars. However the flight period of any individual, or at any particular site, may be very brief.

The Abney Park distribution map (Figure 6) shows that the 2014 sightings were spread across the 13 ha site. From the Abney observations it would appear that males guard suitable nesting sites, fending off other males and mating females when they investigate cavities desirable for egg laying. On one occasion a male was seen to move from rest on the side of the veteran ash (Photo 1), grab in mid-air what was assumed to be a female and the two flew together briefly. They appeared to be mating and within seconds the 'female' entered a cavity at 4m on the south west side of the tree (Photo 2). The male then resumed his position on the tree, variously between 1m and 3m. Other individuals, assumed to be males, were seen 'guarding' two more veteran ash trees with cavities (at 6m and 4m) and the 3m stump of a collapsed hybrid black poplar pollard *Populus* x *canadensis* Serotina. The original ash (T42), bigger and older than others on site, was the only tree seen with more than one insect. The tree is beginning to hollow at 1m due to decay by *Aurantioporus fissilis* (pictured in *London Naturalist* 87, p.39) and has a bark and sapwood opening at this height. However the 'female' and males appeared more interested in separate hollows higher in the tree associated with decay by *Inonotus hispidus*.

The big old ash T42 is thought to have been planted in 1840 but the other trees are assumed to have been planted circa 1890. Abney Park is a former Victorian

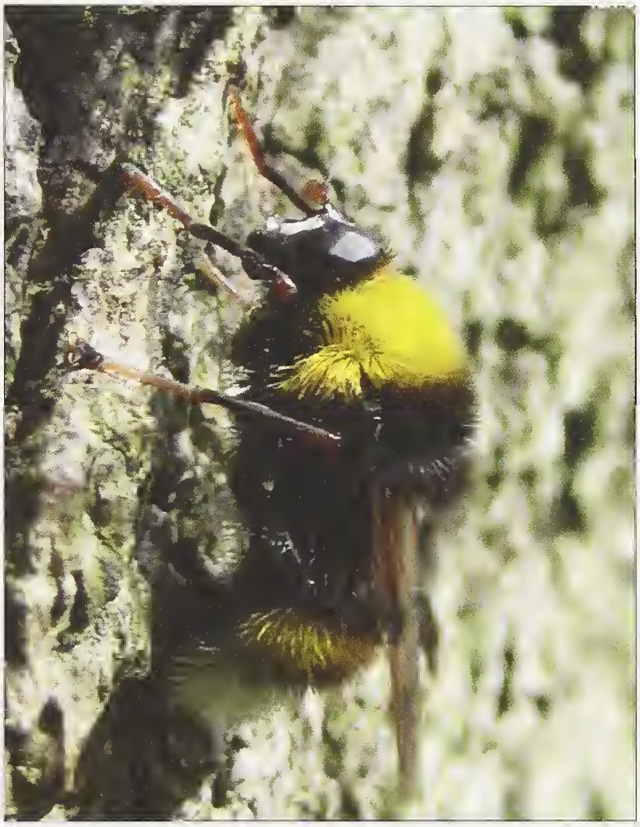
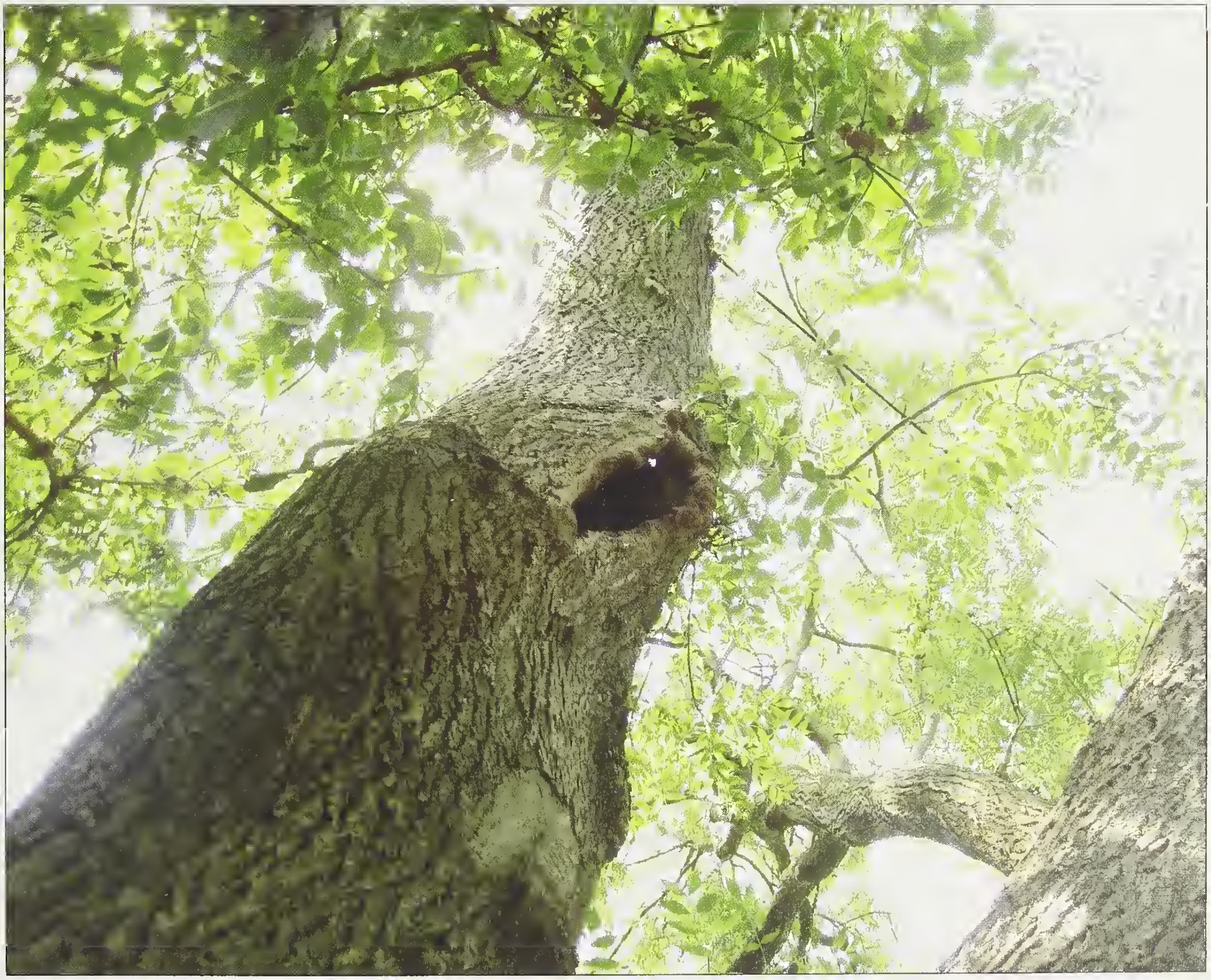


Photo 1 (right): Pocota personata *resting on veteran ash tree bark. (Russell Miller)*

Photo 2 (below): cavity at 4m on branch of veteran ash tree. (Russell Miller)



cemetery currently designated a local site of metropolitan importance for nature conservation. The designation is due to the diverse secondary woodland that covers the site and the collection of old trees. The trees and woodland have been described by Miller (2008). For current purposes the most significant elements are: the collection of approximately fifty veteran trees; the age of those trees, their species composition, and their historic management. Perhaps ten of the veterans date to the famous Loddiges arboretum of 1840, most of the remaining forty or so were probably planted in a major replanting that took place in 1890. Most of these 125 year old trees are: ash *Fraxinus excelsior*, *F. angustifolia*; black poplar *Populus* x *canadensis* Serotina, *P. nigra* Plantierensis; and horse chestnut *Aesculus hippocastrum*. All the hybrid black poplars have been repeatedly pollarded.

The wide distribution, observed behaviour and occurrence on site three years in succession, suggest a breeding population. Dispersal distances are not known but there is evidence that populations can be quite static ('cloistered') with individual trees exploited until suitable pabulum has been exhausted, possibly taking several generations (Hobby, 1940; Shillito, 1947). The diversity of recorded host trees suggests that in common with many other saproxylic species it is the stage of decay, rather than the tree species, which is critical. Significantly however preferred host trees do not include oak *Quercus*. Larvae are filter feeders in wet rot holes and the specific moisture content and chemistry of a particular cavity are important (Ball & Morris, 2014). Something about the special chemistry of oak wood, perhaps the high tannin content, apparently makes it an unsuitable host. It would appear therefore that *Pocota personata* requires continuity of veteran trees other than oak. Whereas a veteran English oak *Q. robur* might live in its senescent state for several centuries, ash, sycamore, poplar, chestnut and even beech die much more quickly and may only be in suitable condition for a matter of years or decades. Abney Park's reasonably large collection of ageing but relatively short lived tree species may make it an ideal site for *P. personata*.

Reasons for 50 year Gap in London Records

Ball and Morris (2014) suggest *Pocota personata*'s occurrence in urban situations could be threatened by the arboricultural practice of filling rot holes in trees, e.g. with concrete. However this practice has been all but abandoned as inappropriate and was rarely adopted in the sorts of locations favoured, i.e. at height. Current guidelines for management of urban trees favours retention of deadwood and other habitat features, within limitations of appropriate risk management (British Standard 3998: 2010). However there remains considerable room for improvement in management of old trees, especially the sort of short-lived tree species required by species like *Pocota personata*. There is still far too little recognition of the wildlife value of old trees, especially declining or decaying amenity trees. Veteran tree is too often assumed to mean only centuries-old oak trees, whereas in fact any species, of any mature age can have rot holes, cavities and decaying wood of considerable value to wildlife. Many species, like *Pocota personata*, are dependent upon short lived, faster decaying trees. The premature felling of trees, or removal of limbs that could be retained, is a significant problem. Unfortunately, the more rapid decay characteristics of non-oak species are precisely the reason they are often felled prematurely. An experienced arboriculturalist can judge an oak is unlikely to fall apart between scheduled 5 year inspections but an old poplar or horse chestnut may need annual or even six monthly inspections if it is to be retained in impaired condition close to people or property.

Whilst great strides have been made in acknowledging the importance of veteran trees (Humphries, 2014; Lonsdale *et al*, 2013; Dept. for Communities & Local Gov., 2012, p. 28) the significance of this key distinction, between very long lived and much shorter lived veterans, remains known to the few who span both disciplines of arboriculture and saproxylic entomology (plus some mycologists). That is a small and not necessarily increasing minority of tree managers. Perhaps one of Abney Park's most important management features is the practice of locking the gates when there is a gale. This simple safety precaution moves the target, i.e. people, at the key time when tree failure is most likely. As a result trees do occasionally fall naturally in Abney, on average two centurion poplars per annum. More importantly they stand until the wind takes them, maximising their life span and the habitat they offer to their associate species. Historic management, e.g. pollarding, creates wounds and ultimately cavities but most observed *Pocota personata* individuals at Abney have been at natural, storm damage related cavities. Cuts to Local Authority budgets, development pressure and increased usage of urban open spaces are all taking their toll on urban trees. Tree officers have less time or resources to manage or defend precisely the types of declining amenity trees that offer potential nest sites for the likes of *Pocota personata*.

It must be conceded, however, that there is no clear ecological explanation for the poverty of records for *Pocota personata* in London. Thousands of apparently suitable host trees still exist at dozens or hundreds of sites where the species has never been recorded, and the absence of records from very high conservation value sites remains something of a mystery. It may be that poor dispersal and habitat fragmentation are significant but an absence of recorders out looking is undoubtedly part of the explanation. Many of the historic records are of larvae collected and grown on and, because the species is so difficult and time consuming to locate, this remains the primary detection method adopted by professional entomologists. For those with the time and inclination to search for *Pocota personata* adults, an understanding of the peculiarities of Abney Park might offer some insight into where best to look. Collections of old, non-oak, broadleaved trees with decay features are a good place to start. Persistent observation of likely trees in May could produce new records at new sites. For now the rediscovery of this remarkable species in inner London, so close to where it was first described in 1776, is a great advertisement for urban ecology and London's natural history.

Acknowledgements

Thanks to Colin Plant and Roger Morris for their very helpful advice and comments on an early draft of this paper. Thanks also to: Roger Morris and Stuart Ball for confirming identifications; the data providers NBN Gateway and Essex Field Club; and to Paul Muir of Treework Environmental Practice and London Borough of Hackney for the Abney Tree Map (Fig. 6).

Table 3 (overleaf): All known records for Pocota personata *in Britain. Records collated by R. Miller 2015.*

Site	Grid Ref	Recorder	Date	Source	Year
Stepney	TQ3581	Harris	08/1776	EMM 76	1776
Avon Gorge	ST5673	Unknown 25	1841	NBN Gateway	1841
Lymington River (SSSI)	SU20	Unknown 27	03/05/1894	NBN Gateway	1894
Lymington River (SSSI)	SU20	Unknown 28	06/05/1894	NBN Gateway	1894
Wyre Forest	S077	Unknown 1	24/06/1894	NBN Gateway	1894
Cambridgeshire	TL45	Unknown 66	1900	NBN Gateway	1900
North Essex	TL92	Unknown 68	01/05/1905	NBN Gateway	1905
Shropshire	SJ5211	Unknown 10	18/05/1912	NBN Gateway	1912
Weston Woods	ST3262	Unknown 21	23/05/1916	NBN Gateway	1916
Gelding Wood	SK6243	Unknown 14	31/05/1921	NBN Gateway	1921
Gelding Wood	SK6243	Unknown 15	07/06/1921	NBN Gateway	1921
Hertfordshire	TL23	Unknown 62	09/05/1926	NBN Gateway	1926
Huntingdonshire	TL3080	Unknown 64	16/05/1927	NBN Gateway	1927
Oxfordshire	SP50	Unknown 20	1930	NBN Gateway	1930
Middlesex	TQ2686	Unknown 72	18/05/1939	NBN Gateway	1939
Richmond Park	TQ2074	Unknown 69	20/05/1939	NBN Gateway	1939
Windsor	SU97	Unknown 49	01/06/1939	HRS	1939
unknown13	TL4558	Unknown 67	1940	NBN Gateway	1940
Windsor	SU97	Unknown 50	01/07/1941	NBN Gateway	1941
Bexley Woods	TQ4971	Unknown 81	16/05/1945	NBN Gateway	1945
Epping Forest	TQ49	Unknown 79	11/04/1947	NBN Gateway	1947
Epping Forest	TQ4097	Unknown 78	23/04/1947	NBN Gateway	1947
Epping Forest	TQ49	Unknown 80	26/04/1947	NBN Gateway	1947
North Somerset	ST33	Unknown 22	04/05/1949	NBN Gateway	1949
Wimbledon Common	TQ2271	Unknown 70	02/06/1951	NBN Gateway	1951
Wimbledon Common	TQ2272	Unknown 71	02/06/1951	NBN Gateway	1951
Hertfordshire	TL11	Unknown 61	11/06/1951	NBN Gateway	1951
Trent Park	TQ2897	Unknown 73	16/05/1959	NBN Gateway	1959
Windsor	SU97	Unknown 51	08/06/1963	NBN Gateway	1963
Blackheath	TQ4076	Unknown 74	11/05/1964	NBN Gateway	1964
Blackheath	TQ4076	Unknown 75	14/05/1964	NBN Gateway	1964
Windsor	SU97	Unknown 56	23/05/1965	NBN Gateway	1965
Blackheath	TQ4076	Unknown 76	15/05/1966	NBN Gateway	1966
Windsor	SU97	Unknown 52	1974	NBN Gateway	1974
Whitley Wood (SSSI)	SU2905	Stubbs, A.E.	1975	NBN Gateway	1975
Windsor	SU97	Unknown 53	29/05/1977	NBN Gateway	1977
Windsor	SU97	Unknown 54	04/06/1978	NBN Gateway	1978
Windsor	SU9373	Unknown 45	02/06/1979	NBN Gateway	1979
Colehayes Park	SX7877	Unknown 57	30/06/1979	NBN Gateway	1979
Lymington River (SSSI)	SU2512	Unknown 31	1980	NBN Gateway	1980
unknown8	SP4507	Unknown 19	01/04/1980	NBN Gateway	1980
Windsor	SU97	Unknown 55	26/05/1980	NBN Gateway	1980
Duncombe Park	SE6082	Unknown 4	1982	NBN Gateway	1982

Site	Grid Ref	Recorder	Date	Source	Year
Duncombe Park	SE58	Unknown 2	18/06/1983	NBN Gateway	1983
Windsor	SU9373	Unknown 46	23/05/1984	NBN Gateway	1984
Windsor	SU9374	Unknown 47	23/05/1984	NBN Gateway	1984
Lymington River (SSSI)	SU2407	Unknown 29	02/06/1984	NBN Gateway	1984
unknown9	ST4817	Unknown 23	25/06/1984	NBN Gateway	1984
Malling Down SSSI, Kent	unknown	Unknown 82	1985	HRS	1985
Lymington River (SSSI)	SU2516	Unknown 33	01/06/1985	NBN Gateway	1985
Lymington River (SSSI)	SU2617	Unknown 37	01/06/1985	NBN Gateway	1985
Lymington River (SSSI)	SU2617	Unknown 38	02/06/1985	NBN Gateway	1985
Lymington River (SSSI)	SU2407	Unknown 30	29/05/1986	NBN Gateway	1986
Lymington River (SSSI)	SU2608	Unknown 35	07/06/1986	NBN Gateway	1986
Lymington River (SSSI)	SU2608	Unknown 36	13/06/1986	NBN Gateway	1986
Lymington River (SSSI)	SU2707	Unknown 41	13/06/1986	NBN Gateway	1986
unknown11	ST5905	Unknown 26	18/06/1986	NBN Gateway	1986
Lymington River (SSSI)	SU2512	Unknown 32	10/05/1987	NBN Gateway	1987
Lymington River (SSSI)	SU2607	Unknown 34	25/05/1987	NBN Gateway	1987
Windsor	SU9374	Unknown 48	30/05/1987	NBN Gateway	1987
unknown2	SJ48T	Unknown 9	03/09/1987	NBN Gateway	1987
Lymington River (SSSI)	SU2708	Unknown 42	21/05/1988	NBN Gateway	1988
Duncombe Park	SE607828	Unknown 3	12/06/1988	NBN Gateway	1988
Selborne Common SSSI	SU7333	Unknown 44	1989	NBN Gateway	1989
Bilberry Wood	SJ3165	Unknown 6	1990	NBN Gateway	1990
unknown1	SJ3248	Unknown 7	1990	NBN Gateway	1990
SBI	SK38	Unknown 13	1990	NBN Gateway	1990
Worthenbury	SJ417464	Unknown 8	18/05/1992	NBN Gateway	1992
Blenheim Park	SP4315	Unknown 18	20/05/1992	NBN Gateway	1992
Lymington River (SSSI)	SU2706	Unknown 39	24/05/1992	NBN Gateway	1992
Sandon Hall, Sandon	SJ9528	Unknown 11	20/06/1992	NBN Gateway	1992
Lymington River (SSSI)	SU2706	Unknown 40	19/05/1993	NBN Gateway	1993
Edge Hill Escarpment	SP3545	Unknown 17	02/05/1994	NBN Gateway	1994
Powis Castle Park	SJ2106	Unknown 5	1996	NBN Gateway	1996
Denny Wood, New Forest	SU3306	Unknown 43	20/04/1997	NBN Gateway	1997
North Lincolnshire	TF4879	Unknown 59	05/06/1997	NBN Gateway	1997
North Lincolnshire	TF4879	Unknown 60	01/08/1997	NBN Gateway	1997
Hertfordshire	TL2317	Unknown 63	10/05/1998	NBN Gateway	1998
unknown4	SK2375	Unknown 12	24/05/1998	NBN Gateway	1998
unknown12	SZ5887	Unknown 58	11/04/1999	NBN Gateway	1999
Epping Forest	TQ407990	Unknown 77	2000	Essex Field Club	2000
unknown7	SO83	Unknown 16	26/05/2000	NBN Gateway	2000
unknown3	SK161215	Bloxham	30/05/2000	NBN Gateway	2000
Wimpole Park	TL3351	Unknown 65	2001	NBN Gateway	2001
Wimpole Park	TL335510	Kirby, Peter	12/04/2002	NBN Gateway	2002
unknown5	SK3041	Alexander, K.N.A.	2004	NBN Gateway	2004

Site	Grid Ref	Recorder	Date	Source	Year
unknown6	SK3622	Alexander, K.N.A.	2004	NBN Gateway	2004
Llanymynech Rocks	SJ2621	Jones, Nigel	17/05/2007	NBN Gateway	2007
Lark Stoke, Warwickshire	SP1943	Falk, Steve	26/05/2010	Flickr, 2010	2010
unknown10	ST5659	Unknown 24	31/05/2010	NBN Gateway	2010
Boultham Park, Lincoln	SK964692	Mick E. Talbot	29/04/2011	HRS, Flickriver	2011
West Sussex	TQ33	EXO	05/2011	Wild About Britain	2011
Denny Wood, New Forest	SU30	Falk, Steve	05/05/2011	Flickr, 2011	2011
Abney Park Cemetery	TQ333868	Miller, Russell	16/05/2013	Miller, R.	2013
Abney Park Cemetery	TQ332868	Miller, Russell	05/05/2014	Miller, R.	2014
Abney Park Cemetery	TQ332868	Miller, Russell	06/05/2014	Miller, R.	2014
Abney Park Cemetery	TQ333868	Miller, Russell	09/05/2014	Miller, R.	2014
Abney Park Cemetery	TQ335866	Miller, Russell	12/05/2014	Miller, R.	2014
Abney Park Cemetery	TQ333868	Miller, Russell	14/05/2014	Miller, R.	2014
Epping Forest	TQ4094	Richardson, J.	21/05/2014	iSpot	2014
Abney Park Cemetery	TQ333868	Miller, Russell	08/05/2015	Miller, R.	2015
Abney Park Cemetery	TQ333868	Miller, Russell	10/05/2015	Miller, R.	2015
Abney Park Cemetery	TQ333868	Miller, Russell	12/05/2015	Miller, R.	2015

References

ALEXANDER, K.N.A. 2005. Observations on the larval habitat of Pocota personata (Harris) (Diptera, Syrphidae). *Dipterists Digest Second Series* **12(2)**: 147-148.

BALL, S.G. & MORRIS, R.K.A. 2014. *A review of the scarce and threatened flies of Great Britain. Part 6: Syrphidae*. Species Status 9: 1-130 Joint Nature Conservation Committee, Peterborough.

BRITISH STANDARDS INSTITUTION 2010. *Tree work Recommendations British Standard 3998*: 2010

CHANDLER, P.J. 1969. The Hoverflies of Kent. *Transactions of the Kent Field Club* 3.3

DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT 2012. National Planning Policy Framework. Department for Communities and Local Government, London.

ESSEX FIELD CLUB 2014. *Pocota Personata* http://www.essexfieldclub.org.uk/portal/p/Species+Account/s/Pocota+personata [Accessed 1 July 2014].

FALK, S. 1991. *A review of the scarce and threatened flies of Great Britain. Part 1.* Joint Nature Conservation Committee, Peterborough.

HOBBY, B.M. 1940. Pocota personata (Harris, 1776) (= apiformis (Schrank, 1781).) (Dipt., Syrphidae): Occurrences in Britain. *Entomologist's Monthly Magazine* **76**: 238-244.

HOVERFLY RECORDING SCHEME 2015. http://www.hoverfly.org.uk. [Accessed July 2015]

HUMPHRIES, D. 2014 Standing Dead Trees in the Urban Forest. *The ARB Magazine* **166**: 25-31.

LONSDALE, D. (ED.), ALEXANDER, K.N.A., BENGTSSON, V., BUTLER, J., CATHERSIDES, A., FAY, N., HARRIS, R., ROSE, B. & WHITE, J. 2013. *Ancient and other veteran trees: further guidance on management*. The Tree Council, London.

MILLER, R. 2008. The Trees and Woodland of Abney Park Cemetery. *Lond. Nat.* **87**: 29-51.

NBN GATEWAY 2014. *Pocota personata.* https://data.nbn.org.uk/Taxa/NBNSYS0000007109 [Accessed 9 July 2014].

PAYNE, R. M. 1973/74. The Hoverflies of Essex. *Essex Naturalist* **33(2)**: 79-103.

PAYNE, R. M. 2008. Some Recent Records of Scarce Hoverflies 1998-2008 Part 1. *Essex Naturalist* 25.

PAYNE, R. M. 2012. Some Recent Records of Scarce Hoverflies. *Essex Naturalist* 29.

PLANT, C.W. 1986. A working list of the hoverflies (Diptera: Syrphidae) of the London Area. *Lond. Nat.* **65**: 109-117.

ROTHERAY, G.E. 1991. Larval stages of 17 rare and poorly known British hoverflies (Diptera, Syrphidae). *Journal of Natural History* **25(4)**: 945-969.

SHILLITO, J.F. 1947. Pocota personata (Harris, M.) (Dip., syrphidae) from Epping Forest. *Entomologist's Monthly Magazine* **83**: 180-181.

SHIRT, D.B. (ed.) 1987. *British Red Data Books: 2.* Insects. Nature Conservancy Council, Peterborough.

SPEIGHT, M.C.D. 2011. Species Accounts Of European Syrphidae (diptera), Glasgow. A special issue of the Species Accounts to commemorate the occasion of the 6th International Symposium on the Syrphidae, University of Glasgow, 2011. *Syrph the net: the database of European Syrphidae (Diptera) Volume 65.*

SPEIGHT, M.C.D. 1989. Life in Dead Trees: A Neglected Part of Europe's Wildlife Heritage. *Environmental Conservation* **16(4)**: 354-356. Cambridge University Press.

SURVEY OF BOOKHAM COMMON

SEVENTY-THIRD YEAR

PROGRESS REPORT FOR 2014

Introduction (Stuart Cole, Chairman)

This was my final year as chairman of the Survey, a post which I have had to relinquish in order to devote my time to house hunting. However, I shall continue to visit the Common as and when I am able.

Oliver Crundall, who used to lead our September spider study day, rejoined the Bookham regulars this year and we were very pleased to have the benefit of his remarkable ability to spot well-hidden spiders, the most notable of which I have covered in my field notes below. We had our two special study days in July and August, led by Neil Anderson and Sarah Barnes respectively; and once more I thank them both for their involvement at Bookham. We also had the annual fungus foray in October led by Ray Tantram. I am grateful to her for the list of the species recorded on the day which totalled 74 and included the rare *Mycena corynophora*. Further reference to this is included Steve Mellor's report on vegetation.

Vegetation (Steve Mellor)

General recording. Because of health problems, the botanical group has had restricted mobility over the Common for a number of years, and this report covers activities during the last three years. Even so, we have not recorded any native taxa new to the recording area during this period. All we can mention is a near miss; Ian Swinney spotted a single early-purple orchid *Orchis mascula* flowering near the south-west corner of, and surrounded by, the Common, but on the embankment leading to the railway bridge, so on Network Rail land. The migration of non-native species has, though, continued. A firethorn *Pyracantha coccinea* was recorded in deep scrub in Division N, dusky crane's-bill *Geranium phaeum* was seen in grass at the northern end of Division S and a single laurustinus *Viburnum tinus* was seen in Division D near Hill House Farm and suspected of having been planted there.

Non-native taxa on the Common. Alien taxa have been recorded on Bookham Common since the start of the LNHS recording effort. As well as natural means of plant dispersal, we have to put up with fly-tipping and contamination by machinery brought in for management of the Common as reasons why unexpected populations of alien and indeed native taxa can arise. Some taxa can be a welcome addition on the Common, for example the single rum cherry *Prunus serotina* in Division C that has shown no tendency to spread (yet?). However, this is not always so, for example, a roadside clump of early goldenrod *Solidago gigantea* has recently been seen in three separate sites on the Common and would be best removed before it becomes a major intrusion and changes the character of swathes of the natural ground flora.

More puzzling has been the appearance of, usually single, alien tree and shrub species: the *Prunus serotina* mentioned earlier, *Rhododendron ponticum*, broad-leaved cockspurthorn *Crataegus persimilis*, Portugal laurel *Prunus lusitanica*, a probable American lime *Tilia americana*, Indian horse-chestnut *Aesculus indica*, walnut *Juglans regia* and others. We are suspicious that some of these were planted intentionally. For those reading this article, please do not put any alien plant material on the Common and dissuade others from doing this. Also please report any non-native species that you encounter so that they can be monitored lest they become pest species that should be removed.

Fungi. The West Weald Fungus Recording Group and LNHS members have carried out an annual fungus foray on Bookham Common for a number of years. It is intended to report the findings next year as a comparative study of records collected during three main periods of recording work over the years of LNHS activity on Bookham Common. Taxa recorded in 2014 that are first records during the present recording period are:

Tripe fungus	*Auricularia mesenterica*	On fallen broad-leaved tree trunks
Wrinkled club	*Clavulina rugosa*	On litter under oaks
Chicken run funnel	*Clitocybe phaeophthalma*	In litter
Wood pinkgill	*Entoloma rhodopolium*	In litter
Common rustgill	*Gymnopilus penetrans*	On conifer debris in Arboretum
Violet bramble rust	*Phragmidium violaceum*	Rust on bramble
Milk white russula	*Russula delica*	In mixed woodland
Beechmast candlesnuff	*Xylaria carpophila*	On beech husks

Invertebrate Field Study Day, 12 July (Neil Anderson)

After a grey start the sun emerged about half an hour before the start of the annual general insect study day and yielded a perfect summer's day with plenty of warm sunshine and some cloud. The fine forecast encouraged 17 people to attend the session.

Most abundant butterfly was the meadow brown with about 40 seen and which seemed to be having a good year. Ringlets were also doing well with about 30 noted and this is a species which seems to be colonising new sites in the London area. Kathryn Bull, who arrived late, spotted a marbled white in the Bayfield Plain. This is another species which is spreading in the London area and we seem to record one each year here on the study day.

The ‘vanessids’ were represented by a couple of newly emerged peacocks, commas of which five were seen, the larger silver-washed fritillary present in reasonable numbers, including a female seeking a site to lay eggs, while white admirals seemed less numerous than recent years with only eight counted.

In 2013 we failed to see any purple emperors in the usual lek site on what was a hot, sunny day, so this year I was uncertain as to whether our quest to see them would be successful or not. I needn't have worried as I spotted one in flight as soon as we arrived at the summit of the path and over the following half an hour we watched three flying around the oak canopy. One was also observed by the station when we departed; the second time I've seen one there.

Odonata numbers were not spectacular but we did record a variety of the regular species. Along a path we had some good views of a female southern hawker which perched

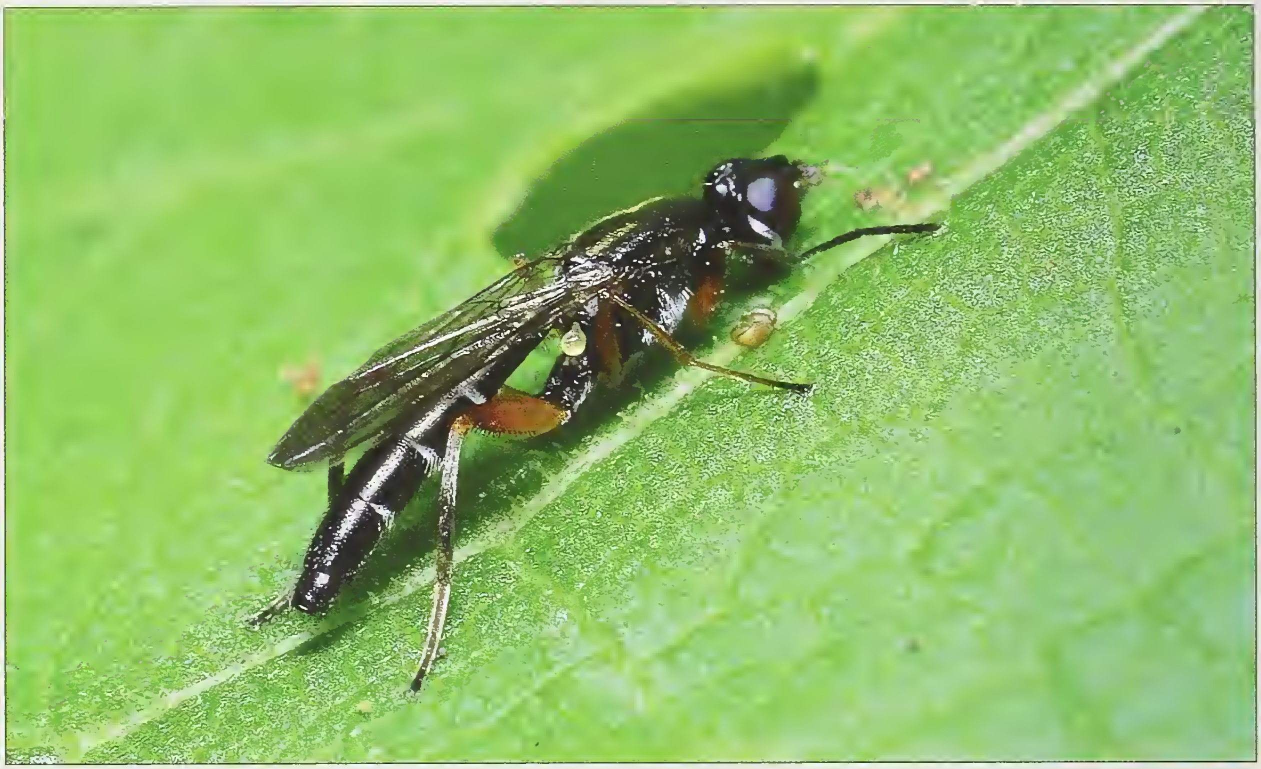


Fig 1: Megamerina dolium. *(Stuart Cole)*

amongst some nettles close to us. The Isle of Wight Pond yielded a couple of male emperors, two brown hawkers, a male black-tailed skimmer, a mating pair of broad-bodied chasers, with the female seen ovipositing, and several small red-eyed damselflies. A single male banded demoiselle was noted; probably a wanderer from the River Mole. A single migrant hawker was observed when we headed for the station.

Sarah Barnes discovered the first record for some years of the large leafhopper, *Ledra aurita*, low on a sallow branch. This well camouflaged species is quite distinctive with ear-like projections on the pronotum and is capable of making audible sounds by stridulating. Several *Pentatoma rufipes* were found by beating foliage and also a single birch shieldbug nymph from its host.

The log pile opposite Merritt's Cottage had more long vegetation around it than other years but a couple of small common lizards were seen here. In this area Stuart Cole made two fine discoveries. First was the scarce black longhorn beetle, *Stictoleptura scutellata*. This species can sometimes be found visiting flowers during June and July but is most frequently observed in the vicinity of suitable logs. The larvae take at least three years to mature and favour dead wood exposed to the sun so this would seem a suitable location for breeding.

The second discovery was the Nationally Notable ichneumon-mimicking fly *Megamerina dolium* (fig. 1) also on the logs. The larvae of this species live as predators below the bark of logs. There are only around a dozen species of its family *Megamerinidae* worldwide and this is the sole British representative.

The fine weather was good for raptors. At least a couple of buzzards were seen and two sparrowhawks, a hobby and a kestrel were spotted. Bullfinches were heard and a couple of us were pleasantly surprised to see a nightingale on the way back to the station.

Hoverflies

Due to his wife's fragile health, Alan Prowse, our bird recorder was able to spend very little time at the Common in 2014. However, he had occasional opportunities to do some work on hoverflies during the summer and sent me the following records for these insects:

June
Anasamyia contracta
Leucozona laternalia (fig. 2)
Neoascia tenur
August
Cheilosia bergenstammi
Cheilosia fraterna
Cheilosia pagana
Cheilosia scutellata
Cheilosia soror
Platycheirus scutatus
Volucella inanis
Xanthogramma pedissequum
Xylota segnis
Xylota sylvarum

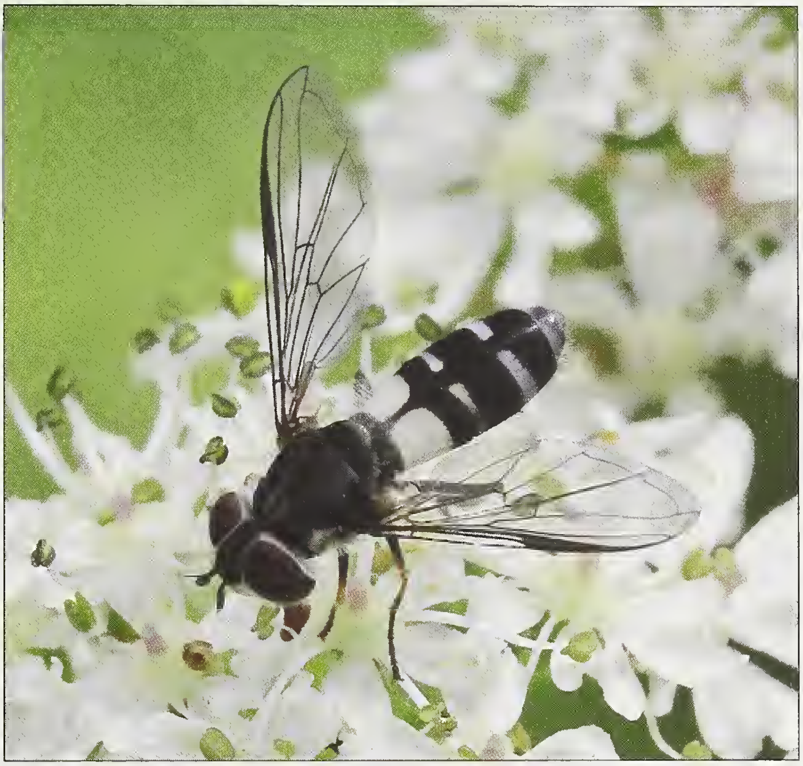
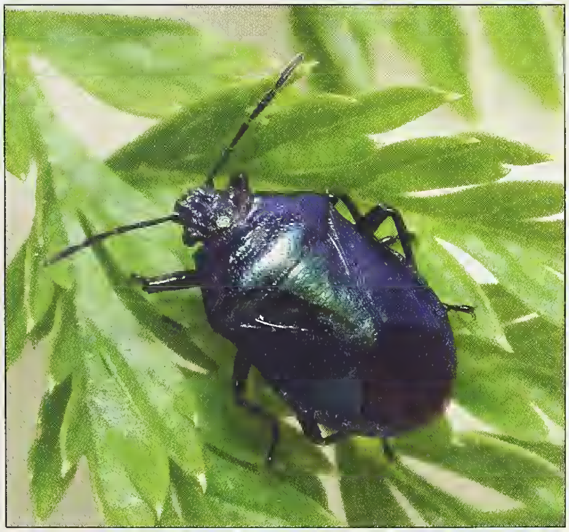


Fig 2: Leucozona laternalia. *(Alan Prowse)*

Field Notes (Stuart Cole)

9 March a fine mild sunny day. Brimstones in flight were frequent but just one other butterfly was seen, a small tortoiseshell feeding at primroses in Merritt's Cottage garden. The dark blue shieldbug *Zicrona caerulea* (fig. 3) was found crawling on low vegetation. Some queen bumblebees were about, several of *Bombus terrestris* and one each of *B. pascuorum* and *B. hypnorum*. The introduced daffodil fly (*Norellia spinipes*) of the *Scathophagidae* was common on daffodil flowers in the garden of Merritt's and elsewhere.



12 April speckled woods, peacocks and orange tips were about in small numbers. The little micro moth *Incurvaria masculella* was found, a male sporting strongly pectinate antennae. The ground beetle *Elaphrus riparius* was seen several times on wet mud in an area stripped of vegetation for return to grassland. Here also we came upon smooth newts and bank voles under logs. A nest of field mice was exposed when we turned over a discarded mat. The coreid box bug (*Gonocerus acuteangulatus*)

*Fig 3: Blue bug (*Zicrona caerulea*). (Stuart Cole)*

was found on hawthorn, the leaf rolling weevil *Deporaus betulae* was common, a larval glowworm (*Lampyris noctiluca*) was spotted wandering across a track and Tristan Bantock turned up two scarce beetles: the erotylid *Tritoma bipustulata* (Notable A) on the underside of a log encrusted with *Trametes* fungus and the click beetle *Athous subfuscus* (RDB3, although this designation is considered no longer appropriate).

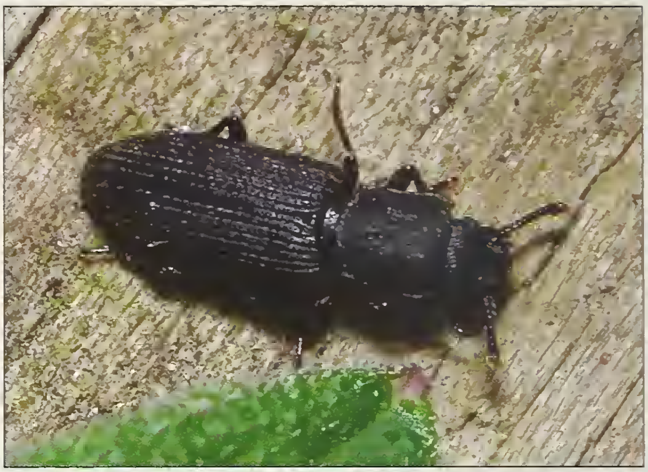
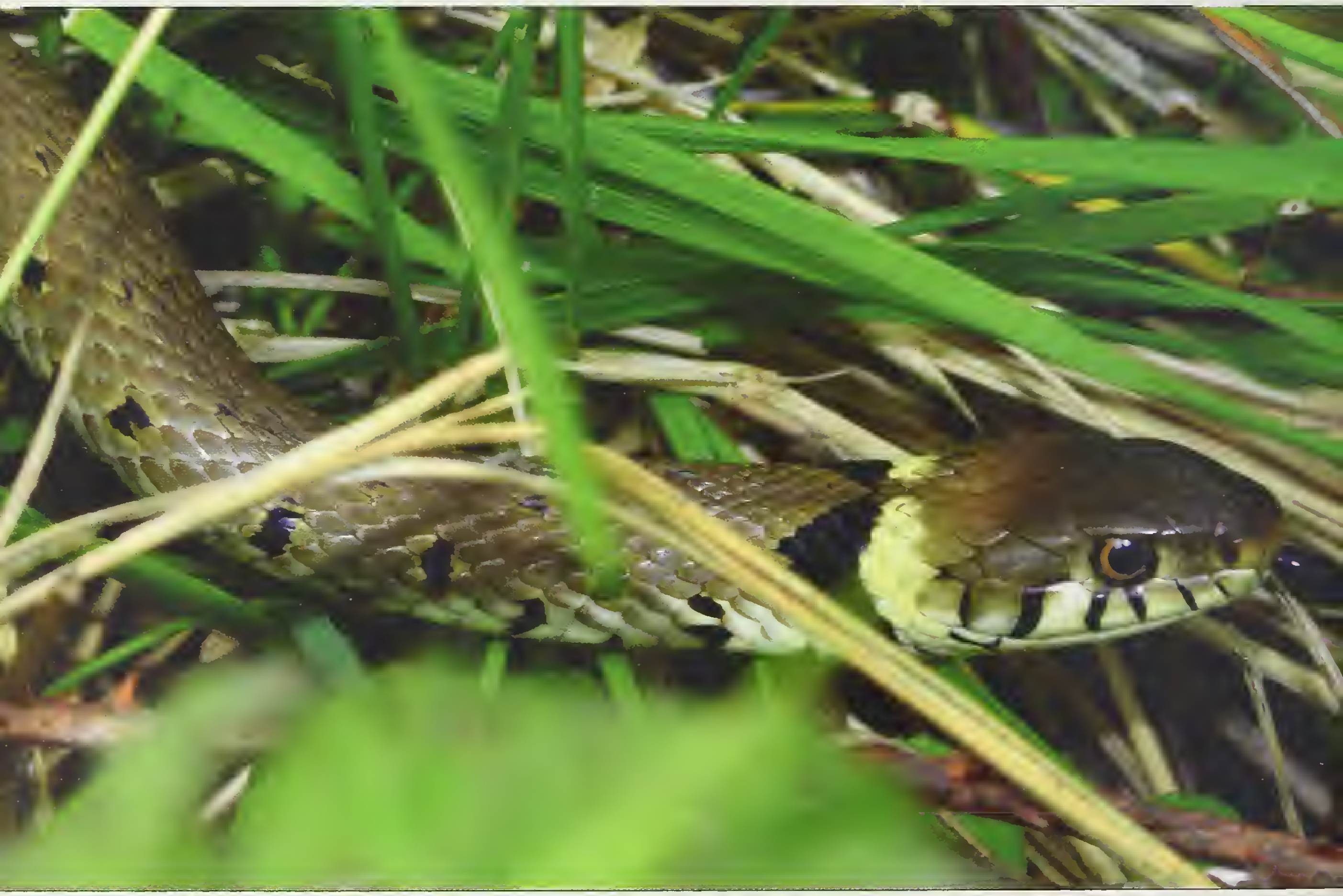


Fig 4: Pycnomerus fuliginosus. *(Stuart Cole)*

14 June Examining loose bark on an oak log opposite Merritt's Cottage, we found the following beetles: *Sylvanus unidentatus*, *Uleiota planata* and *Pycnomerus fuliginosus* of the *Silvanidae* and *Pediacus dermestoides* of the *Cucujidae*. *Pycnomerus* (Fig. 4) is an introduction from Australia which has been expanding its range in southern England in the past few years. Apart from a common lizard, the only reptile seen today was a grass snake (fig. 5). Moving on to the birch glade near the ponds, we located a number of the large red leafbeetle *Chrysomela populi* (Fig. 6) on an aspen sapling and found a puss

Fig 5: Grass snake. (Stuart Cole)



moth caterpillar (*Cerura vinula*) on a neighbouring aspen. In the interior of oak woodland nearby we came across a female and male of the crabronid wasp *Argogorytes mystaceus* (fig. 7), a species that preys on froghoppers. The slender brown berytid bug *Metatropis rufescens* was found on foliage. This feeds on enchanter's nightshade.

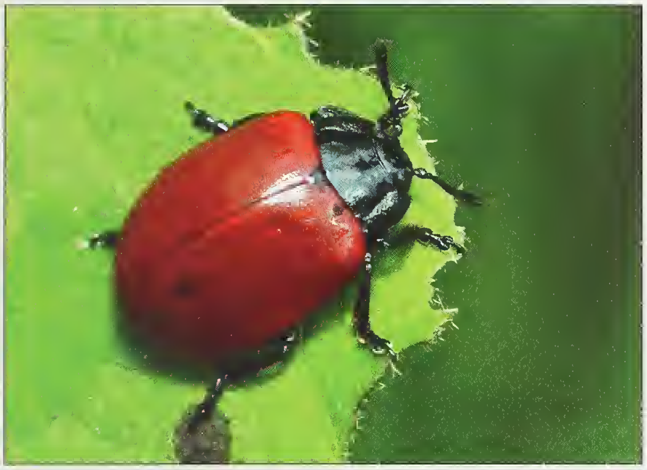


Fig 6: Chrysomela populi *on aspen. (Stuart Cole)*

12 July In addition to the insect species that Neil Anderson has mentioned in his note on the invertebrate study day, the following were among other species found: gatekeeper, brimstone, red admiral butterflies and little skippers mud puddling beside the bridge on Bayfield Plain; several hornets; a summer chafer (*Amphimallon solstitialis*) and a single of the reed beetle *Donacia versicolorea* that was swept from vegetation beside Isle of Wight Pond by Tristan Bantock. This has not been recorded at Bookham since the 1940s. It is associated with broad-leaf pondweed (*Potamogeton*). He also found the first specimen of the leafhopper *Athysanus argentarius* to be recorded at Bookham. This was formerly a very scarce species confined to salt marshes but is now widespread inland.

When I returned to Bookham later in the evening I came upon several females of the Nationally Scarce beetle *Lymexylon navale* ovipositing on the ends of oak logs by Merritt's.

9 August Oliver Crundall found us a number of uncommon or local spiders today. The first was an immature *Araneus angulatus* in low herbaceous vegetation. The species is described as rare in UK, confined to southern England and is uncommon in Europe. Another of the genus was a small immature *Araneus triguttatus*. Better still was Oliver spotting two strawberry spiders (*Araneus alsine*) (Fig. 7) in their hibernacula in the clearing with birch trees where we have searched for this species for the last two years without success. It is good to know that this distinctive rare and local spider is still present in its traditional site. We found another *A. alsine* on Bayfield very close to a wasp spider (*Argiope bruennechi*) that was in her web with a captured *Cicadella* leafhopper in the same clump of herbaceous plants. Another orb-web spider was an unusually red *Larinioides cornutus* on a leaf beside

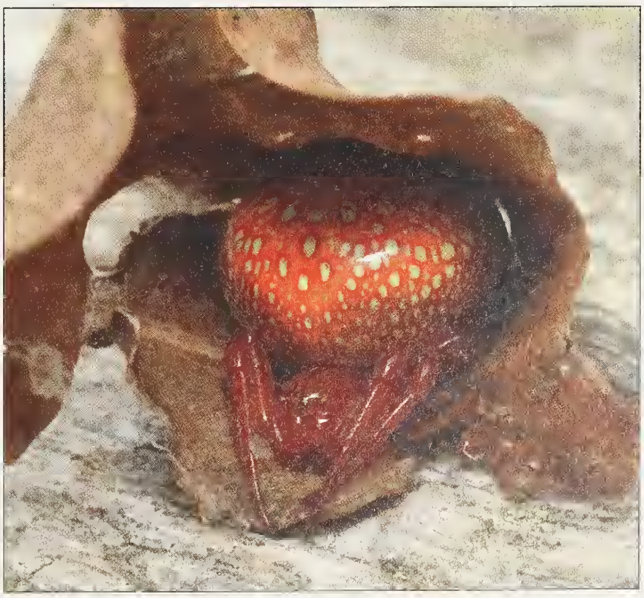


Fig 7: Mature female strawberry spider (Araneus alsine). *(Stuart Cole)*

the Eastern Pond. Among non-araneid spiders recorded today was the local lyniphiid *Floronia bucculenta* at the bottom of some bushes.

Insects noted in particular were: the reed beetle *Donacia marginata* on *Sparganium* at Eastern pond, a nymph of the pentatomid *Troilus luridus* beaten from aspen foliage, three adult birch bugs (*Elasmostethus interstinctus*) with green nymphs; the wasp-like sawfly *Tenthredo scrophulariae* on figwort, a queen of the bumblebee *Bombus hypnorum* and the horse-fly *Chrysops relictus*. Tristan Bantock swept the weevil *Orchestes quercus*, which I had not seen at Bookham before, and the attractive mirid bug *Miridius quadrivirgatus*, a species formerly virtually confined to southern coastal localities, but which is now moving inland. Among Orthoptera that Sarah Barnes found for us were meadow grasshopper, common green grasshopper, long-winged conehead, speckled bush-cricket and dark bush-cricket (*Pholidoptera griseoaptera*).

Perhaps the insect find of the day was the black and red lycid beetle *Platycis minuta* that Sarah spotted on a leaf just inside woodland beside the Isle of Wight Pond. This is the first of this Notable B species that I have seen for many years and it is only the second specimen recorded at Bookham since 1944.

16 September visiting the Common on a non-survey day with Oliver Crundall and Mick Massie. We spent some time searching a clearing beside Common Road where we located 4 or 5 mature female strawberry spiders and later two more in the birch clearing (so far, I don't think we have seen the male of this species). Strawberry spiders conceal themselves in a curled up fallen leaf (hibernaculum) a foot or two from the ground in a clump of grass or herbaceous plants in light woodland or open vegetation. It takes a practised eye to recognise a likely leaf from the many others that have fallen. The female's large abdomen is dark orange with small cream spots which somewhat resemble the pips on a strawberry fruit.

The highlight today was the unusual and scarce uloborid spider *Hyptiotes paradoxus* of which Oliver found three, a female and two males, all on one dock plant near Merritt's Cottage. We had seen the species at Bookham once before near Isle of Wight Pond 3 years ago and that was possibly the first record for the Common. The uloborids, of which there are only two British species, are unique among our spiders in having no poison glands.

Of insects we noted *Platypus cylindrus* on an oak log; several of the once rare, but now common, beetle *Uleiota planata* of the family *Sylvanidae* as well as *Sylvanus unidentatum* and the little black predatory bug *Xylocoris cursitans* (*Anthocoridae*) under bark.

GiGL AND THE LNHS

MANDY RUDD
Chief Executive, Greenspace Information for Greater London CIC
C/o London Wildlife Trust, Dean Bradley House, 52 Horseferry Road, London SW1P 2AF
mandy.rudd@gigl.org.uk

Summary

The history of Greenspace Information for Greater London CIC (GiGL) is reviewed, with particular reference to its relationship with the LNHS. A number of the projects in which GiGL has been involved, and future plans, are described by Mandy Rudd, the Chief Executive.

Greenspace Information for Greater London CIC (GiGL) is the capital's environmental records centre – we collate, manage and make available detailed information on London's wildlife, parks, nature reserves, gardens and other open spaces. The London Natural History Society (the Society) has played a key role in GiGL's development and this article aims to give a brief history of the process of setting up the records centre, the Society's involvement, and an idea of how we support the Society and broader GiGL partnership.

Establishment

One of the first meetings that I attended as the representative of London Wildlife Trust's Biological Recording Project (the Project) was the session to agree the first tranche of London Biodiversity Partnership's species and habitat action plans which were published

Below left: Mistletoe, Bushy Park. (Maria Langley)
Below right: London rocket, London Wall. (John Archer)

Broad-bodied chaser. (Jason Green)

in 2000. There were familiar faces in the room from the Project's Advisory Group, including luminaries from the London Ecology Unit and the London Natural History Society. The experts around the table used scientific names and I had no idea what anyone was talking about, instead quietly opting to agree with our Advisory Group experts' views, a position that served me well from that point onwards.

The Biological Recording Project was set up in 1996 as a precursor to a local environmental records centre for Greater London, its objective being to run projects that would demonstrate how a records centre could help inform decision-making in the capital once the partnership, data systems, funding and staff team were in place. Local Environmental Records Centres (LERCs) are not-for-profit organisations that collect, collate and manage information on the natural environment for a defined geographic area. LERCs support and collaborate with a network of experts to ensure information is robust, and make information products and services accessible to a range of audiences including decision-makers, the public, and researchers. Today, London's environmental records centre is fully operational and independent, and is known as Greenspace Information for Greater London CIC, or GiGL.

Development

The London Natural History Society has played a key role in the development of GiGL over the last 20 years. As part of London Wildlife Trust's Biological Recording Project's Advisory Group, the Society, alongside organisations such as English Nature, the Environment Agency, and the London Ecology Unit, helped shape the successful funding bid to Bridge House Estate (now City Bridge Trust) which resulted in the Project starting in May 1996. After the initial three year grant came to an end, London Wildlife Trust continued to employ a member of staff to build on the project and steer it towards becoming a fully-operational records centre, once an audience for its services had been developed and sustainable funding achieved. The Society continued to input to the

Project's development until 2004, during which time London also saw the creation of the London Biodiversity Partnership and its biodiversity action plans, and the National Biodiversity Network was created at a UK level following a report from the Co-ordinating Commission for Biological Recording. Further information on the NBN's history is available at http://www.nbn.org.uk/The-NBN/What-is-the-NBN/NBN-Concept.aspx

In April 2004, Greenspace Information for Greater London began its two-year development phase which came about as a result of two independent consultations into what London needed from a local environmental records centre, led by the London Biodiversity Partnership. Building on the work of the Biological Recording Project and drawing on examples of best practice from established records centres in other parts of the UK, GiGL began to develop services that would ensure it could then build on the partnership and develop the client base that it required to become sustainably funded. In April 2006, GiGL became a fully-fledged records centre, and in 2013 was set up as a community interest company (CIC), with all of the established systems, staff team and contracts transferred across from London Wildlife Trust to the company in order to start operating in April 2013.

Since 2004, the London Natural History Society has been represented on both the GiGL Steering Group and its Recorders Advisory Group, and played a key role in developing GiGL's policies in areas such as data access and charging, and the broader area of ensuring services were developed to help and support London's recording community. Now that GiGL is independent, the Society's input and influence will continue via the GiGL Board, Advisory Panel and the broader networks that GiGL now works with.

Mile End meadow. (Juile Cox)

Activities

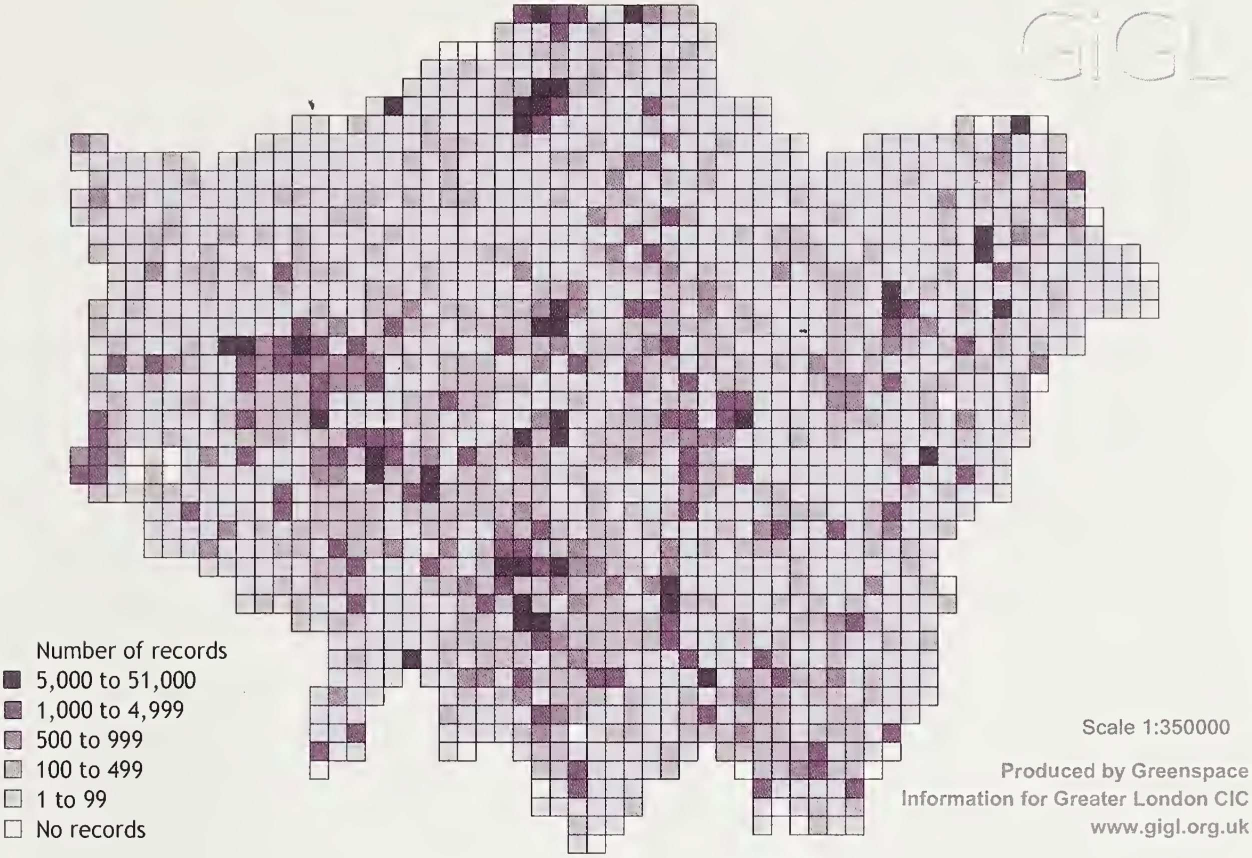
So what does GiGL actually do and how does it go about doing it? A community interest company (CIC) has to describe the community it is being set up to serve during its formation. The community described in GiGL's declaration includes individuals and organisations that collect and/or use data on the natural environment, and Londoners, who will benefit from evidence-based decision-making by GiGL's partners and clients.

There is an LERC for every county in the UK (with two exceptions). As with all other records centres in the UK, GiGL has a not-for-profit business model and charges for services in order to cover its running costs. We have avoided attaching any kind of financial value to data we hold, on the basis that they are not ours to charge for, and national standards and guidance that are reflected in our charging policy do not support this approach either. The National Biodiversity Network's Data Exchange Principles are set out at http://www.nbn.org.uk/Share-Data/Providing-Data/NBN-Data-exchange-principles.aspx and more recently, the Association of Local Environmental Records Centres Accreditation Criteria has set out principles at http://www.alerc.org.uk/accreditation.html. Instead, under GiGL's charging policy (available at http://www.gigl.org.uk/giglpolicy/charging-policy/), we have a sliding scale of charges for our time, from 'commercial' to 'partner' to 'free', based on the end user's ability to contribute towards our running costs. Details are available from our website at: http://www.gigl.org.uk/giglpolicy/charges/. If at the end of a financial year we have made a profit, our commitment as a community interest company is to invest the funding back into our operations in order to benefit the community the business was set up to serve.

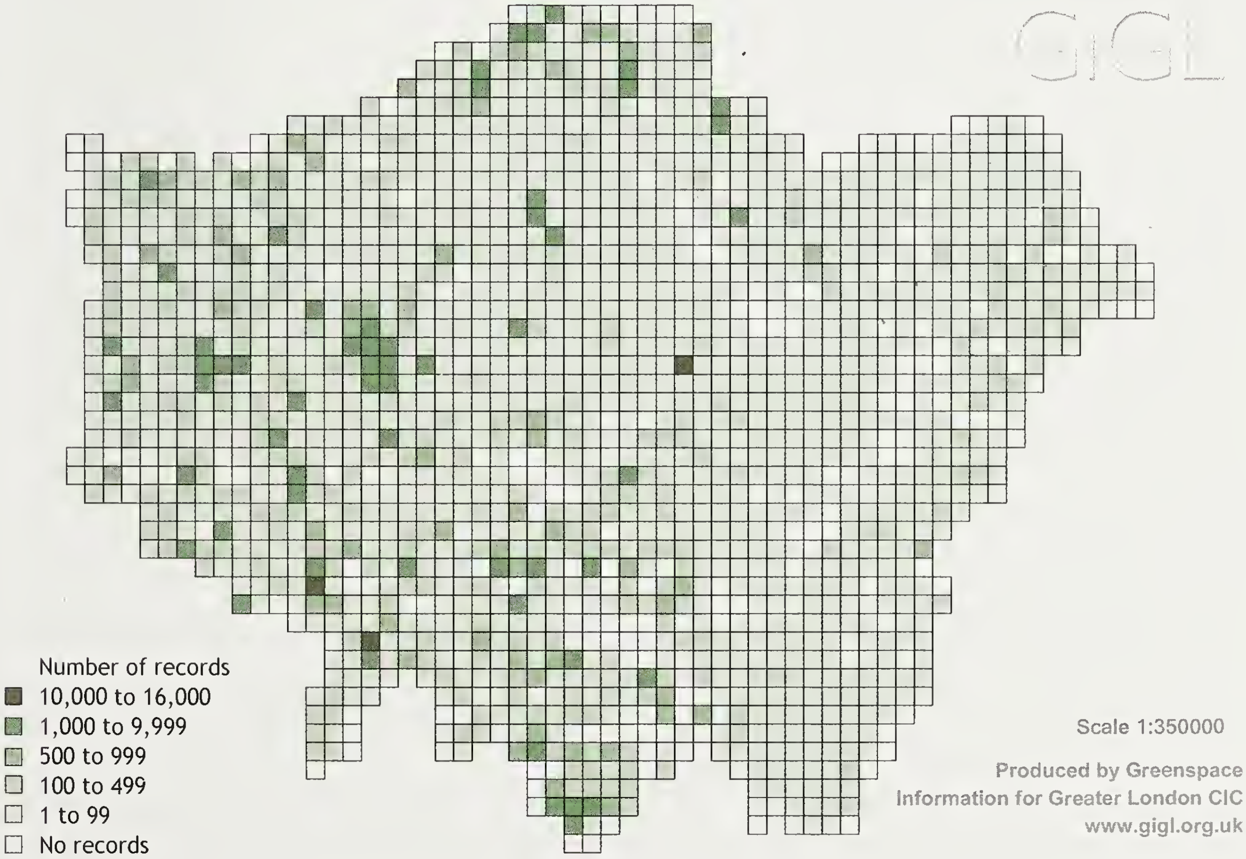
As of 2015, GiGL has a staff team of eight who are employed to run the business, develop and run services, and provide data expertise where our partners and clients do not have it in-house. As a result, the team work with a diverse range of groups to ensure London's natural environment evidence base requirements are well represented, and attend over 200 meetings a year, ranging from local initiatives such as recording groups, local biodiversity partnerships run by London Boroughs, regional initiatives such as the All London Green Grid, through to various national groups including the London and South-East Local Records Centres Group and the Board and working groups of the Association of Local Environmental Records Centres. GiGL has also been represented on various working groups of the National Biodiversity Network and the council of the National Federation for Biological Recording, and is committed to being a local delivery node of the National Biodiversity Network going forward.

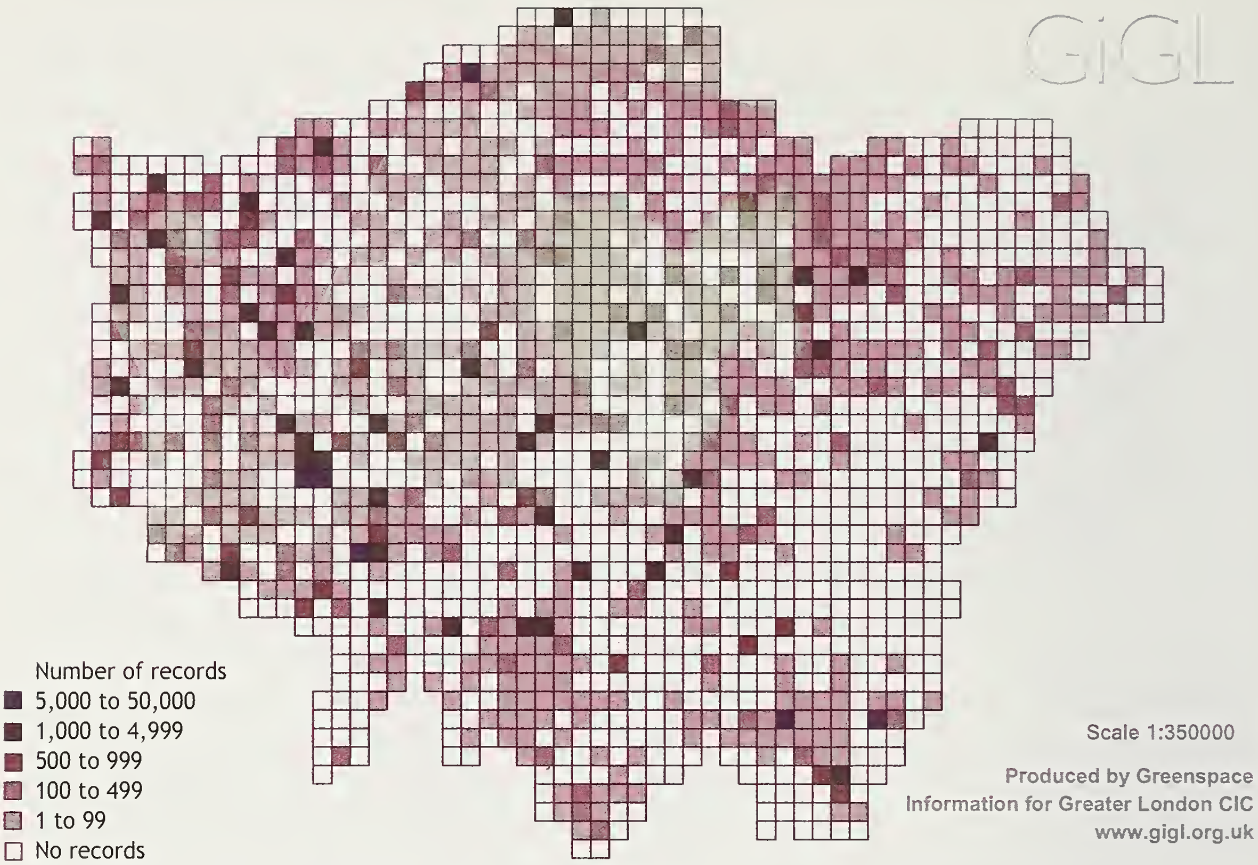
The breadth of our data holdings has grown, and we are now responsible for maintaining the evidence base for three non-statutory site systems (nature conservation, geology and recreation) as well as the key datasets that underpin the site systems, which include London-wide habitat and open space datasets. This site-based evidence base is managed via linked databases that are then linked to our geographic information system, a powerful tool that

Brown Argus, Warwick Gardens. (Photo: Penny Firth)



Above: Map to show the distribution of GiGL records for birds to September 2015.
Below: Map to show the distribution of GiGL records for butterflies to September 2015.





Map to show the distribution of GiGL records for moths to September 2015.

enables the user to capture, manipulate and importantly, analyse spatial data. Our data guide can be downloaded from http://www.gigl.org.uk/giglpolicy/data-guide/

GiGL is the data custodian for many of London's recording groups, including the Society, and the collated species dataset, which has thousands of owners and contributors, now stands at over 3 million records representing more than 13,000 different species found in London. These data are inputted to and managed in Recorder 6, a software package that is currently maintained by the JNCC on behalf of the National Biodiversity Network, and as such has become a recognised standard for species data management.

Approximately one quarter of the species data we currently hold have been submitted to us on behalf of the Society, and they in turn represent just over half of the taxonomic groups for which the Society has active recorders. Over the last few years we have been able to offer the Society's recorders assistance with mobilising data as part of our records centre remit and CIC commitments, an exercise that has resulted in us entering data contained in emails, spreadsheets, journals, bespoke databases and large cardboard boxes. The GiGL Data Flow Strategy will reflect which Society datasets are available via GiGL once it has been completed.

By standardising the format of the Society's data, the recorders are able to undertake their own analyses of the data for which they are the Society's custodians, and the data are also then made available via GiGL's services to improve end users' understanding and awareness of species in London. The biggest project of this type that we have undertaken is mobilising the Society's historic bird data. A dedicated volunteer has spent nearly every Friday since 2007 working with us in the office inputting hand-written records from index cards. He has estimated that at a rate of a day per week the resource will take about 70 years to digitise - any offers of help will be gratefully received.

We have also assisted with the production of the Society's publications, including the *Breeding Birds of the London Area* and several editions of the *London Bird Report*. This work has involved data collation, analysis and the creation of bespoke maps for the publications, something we will be undertaking for the London Flora and other Society projects once the recording efforts have reached their conclusion.

Recent projects

Our most recent project with the Society is the addition of the Society's recording area and vice-county boundaries to our online mapping system, iGiGL, available at http://www.gigl.org.uk/online/. It is hoped that this will assist recorders with validating records' location information. These new datasets will be added to the existing resource, which includes data on London's accessible sites of importance for nature conservation, parks and open spaces, and geology, and is freely available for anyone to use, and crucially today, is smartphone-friendly so users can find their nearest accessible site while they are out and about.

With such an extensive collated resource, we have been able to collaborate with a range of partners on projects related to London's natural environment. A current list of partners can be found online at: http://www.gigl.org.uk/about-gigl/working-with-us/partners/ .

The GiGL evidence base underpins decisions across a broad range of areas, from development control and land management through to nature conservation, and informs other areas such as local and national research as well as how fires and pollution incidents are dealt with on protected sites. Many examples of projects we have collaborated on have been featured in our newsletter, *the GiGLer*, or mentioned via our Twitter account (@igigl) but the following examples will give an idea of how our work complements and highlights that of the Society and other GiGL partners. Readers can sign up to *the GiGLer* and read it online at http://www.gigl.org.uk/gigler/.

GiGL is host to the London Invasive Species Initiative (LISI), and employs the LISI Manager. Funded until recently by Defra, LISI was set up to help co-ordinate evidence and action relating to invasive non-native species in London in order to reduce their negative impact on London's natural environment and economy. Part of the evidence base is LISI's species of concern list, which is specific to the London area and aims to provide direction and a means of prioritisation for land managers. The list groups species into different management categories, and is kept up to date through local and national collaboration with experts including members of the Society. GiGL's role in this work is to encourage land managers, species experts and members of the public to report sightings of invasive non-native species to us in order that we can then flag their existence and any management information to relevant stakeholders, including clients working on behalf of developers and our partners who have land management responsibilities. LISI's website can be found at: http://www.londonisi.org.uk/.

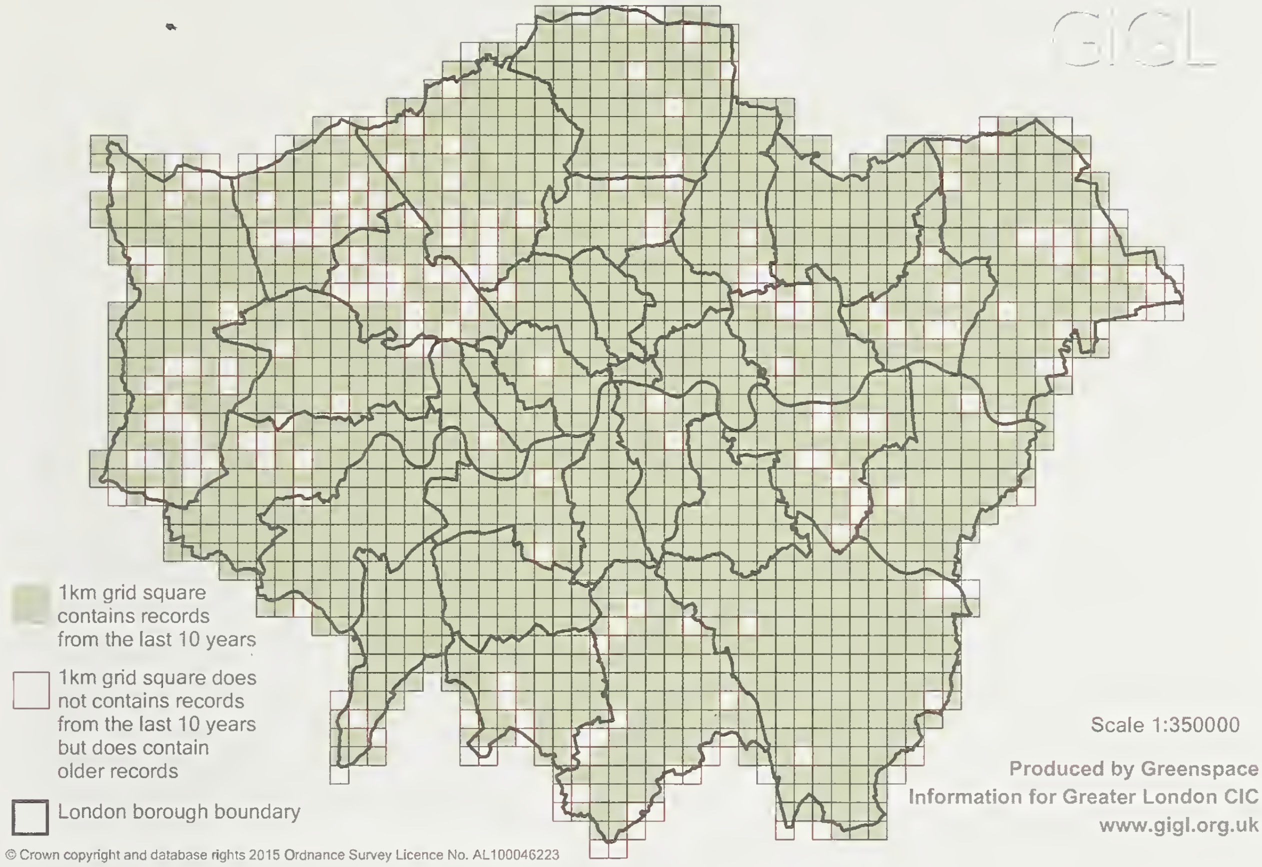
Another of the more important projects we are working on is a data flow strategy for London, covering species, habitat and site-based datasets. So many different organisations and individuals are undertaking survey work in London it has become even more important that as a partnership we have a collective understanding of who the experts are and where data are going. For example, some experts are passing data to both GiGL and national schemes and societies, while others do not share their data at all.

Other datasets which we are responsible for managing and keeping up to date, such as habitats and non-statutory sites, are slightly easier to look after, as many land managers now seek advice from us prior to undertaking surveys to ensure outputs meet the data standards we have set for London. However, it is important that all stakeholders understand the resource that is available to them via GiGL services and that our services are fit for purpose. The data flow strategy will make the current data holdings more transparent and help us to ensure we are working with the key experts in London and further afield on filling the taxonomic and geographic gaps over time. This is already being done in some areas through our partners' citizen science projects and expert surveys. Current examples of these projects can be found at: http://www.gigl.org.uk/partnershipcasestudy/partner-citizen-science-forms/.

An example of how we have helped develop the collective understanding of London's natural environment is the research we undertook on private gardens. At the point where we could confidently say we had pulled together most site-based datasets that existed in London, we realised we knew little about London's gardens other than their locations, so we asked London Wildlife Trust, the Greater London Authority and independent specialists to collaborate with us on a pioneering study 'London Garden City', which was funded by a legacy grant from the Wildlife Trusts. The report reveals that London's gardens changed during the study period, becoming less 'green', with total vegetated land in gardens being lost at a rate of two and a half Hyde Parks per year. The total area of non-vegetated 'hard surfacing', including decking and paving in London's garden land increased by over 25 per cent in the 100 month study period. The report has subsequently been cited in regional policy and local plans, and has also influenced discussion as far afield as Australia.

Another habitat-based output is the habitat suitability and condition mapping work we undertook on behalf of London Biodiversity Partnership. Over a two-year period, we worked with the habitat action plan working groups on devising methodologies that would enable us to use the existing habitat records alongside indicator species data to establish an idea of the condition each habitat was in at the time of survey. Alongside this, we utilised data on London's geology and other ecological factors to map the potential for improving, expanding and creating any of the nine priority habitats where the environmental conditions and management permitted. This information is made available to all partners and clients that wish to benefit biodiversity in their activities, and has recently been highlighted by GiGL and Transport for London to other infrastructure managers such as Network Rail and Highways England. Maps and additional information can be found at: http://www.gigl.org.uk/our-data-holdings/habitat-data/bap-habitat-suitability-data/.

GiGL is one of the partners in the Making a B-Line for London partnership, along with the Bee Collective, Buglife, the Forestry Commission, the Greater London Authority, the London Wildlife Trust, Natural England, RSPB and the University of Sussex. The initiative aims to improve the diversity and abundance of pollinating insects and increase Londoners' understanding of their importance. Utilising the London-wide habitat and pollinator species datasets we have within the GiGL partnership, we have created a data model to define the areas where the project will seek to engage stakeholders and deliver targeted work, including increasing the amount of suitable habitat and, importantly, monitoring the changes in


1km grid square contains records from the last 10 years
1km grid square does not contains records from the last 10 years but does contain older records
London borough boundary
© Crown copyright and database rights 2015 Ordnance Survey Licence No. AL100046223
Scale 1:350000
Produced by Greenspace Information for Greater London CIC
www.gigl.org.uk
GiGL

This map compares records of species protected by the planning process with 1km grid squares according to date, revealing areas without recent records. It highlights the importance of almost all of Greater London for notable species, but also demonstrates the terrific work of London's recording community. What about the 1km grid squares where no protected species have been recorded, or where they have been found historically but not within the last 10 years? Do these areas not contain any protected species, or is it that no-one has submitted any records from there? Scale accurate to A3.

abundance and diversity to establish the most effective land management techniques. The Society has already contributed to the project's development and, as the project enters its delivery phase, the Society and other recording groups in London will be vital to its success.

There is, of course, room for improvement in terms of the breadth of our partnership, uptake of services by clients and the evidence base itself. Despite all our efforts as a team and broader partnership, nature is not always accounted for in the capital, a fact borne out by statistics around development control planning. Between 80,000 and 90,000 planning applications are made annually in London, but only 1% of those are currently informed by GiGL data search reports: 800 reports were delivered in 2014/15. The client base for this service is growing however, thanks to a great deal of work going on at a regional and national level to improve the private sector's understanding of the requirements on them, as well as providing guidance to London's planning authorities on when they should expect to see a GiGL data search submitted as part of the supporting evidence of an application. Where clients come back to us for additional information and advice we provide a signposting service to relevant organisations, and regularly flag the work of the Society and importantly, ensure our clients are aware of the species experts that we work with if they require additional support or information.

Another approach we have taken to improving the consideration of nature in planning is to work with World Animal Protection and the Metropolitan Police's Wildlife Crime Unit on mapping wildlife crime data (see http://www.gigl.org.uk/online/WildlifeCrimeData.aspx). The data cover areas unrelated to planning such as exotic wildlife crime and illegal trade, as well as disturbance of native habitats and species, including breeding birds, through uninformed land management or development. Wildlife crime officers are now asking local residents to help GiGL improve the evidence base for species protected by law, and are also consulting with the GiGL evidence base when an incident is reported involving possible disturbance of habitats or protected species. Again, we also signpost the Police to the species experts that we work with, so they can provide additional advice.

Future developments

So what does the future hold for GiGL? As GiGL and the range of end-uses of our services develops, so does the GiGL team and volunteers' knowledge, ensuring that we utilise our technical expertise to meet the increasing demands of our partners and clients. We have a collective understanding of recording, planning and land management, as well as topics such as health and wellbeing and green infrastructure, but we are only here to provide expertise on how and when to use the data, and to signpost people to the specialists and projects that exist in the areas we are involved in. With all this in mind, we aim to write our strategic plan during this financial year, which will set out key areas of work and targets for the coming years.

At a national level, we will be working closely with the National Biodiversity Network Trust and fellow NBN partners on assisting with the delivery of the NBN's Strategic Plan and the related action plan, as well as preparing to apply for records centre accreditation via ALERC. We will continue to engage with NBN and ALERC working groups to ensure we are translating best practice back to the London level.

Closer to home, we will be seeking to broaden the range of funding partners working with us, and to improve the use of our services in strategic and development control planning via our client base. Both aspects will improve our turnover and enable us to invest more resources back into working free of charge for London's recording community and the general public, two other key areas that we wish to develop further.

With specific reference to the Society, we hope to involve more of the taxonomic experts in our work and we would like to improve the taxonomic coverage of the Society's collated dataset that we hold. We could provide assistance with targeting recording, help mobilise data including via online recording, and will continue to ensure we provide a secure back-up for the Society's data. Over the coming months we aim to improve our data analysis and visualisation skills and these may be of interest to individual recorders or the Society as a whole to illustrate what the Society knows about nature in Greater London and the Society's broader recording area.

Further information about GiGL, including contact details, is available on GiGL's website at http://www.gigl.org.uk/.

RONALD HENRY KETTLE, 1923-2014

Photo: *Irene Kettle*

Ron Kettle's membership of the London Natural History Society spanned a total of 58 years from the time he joined in 1956 until his death on 21 October 2014, three weeks before his 91st birthday. He was a member of Council from 1965 to 1973, while his main interests were with the Ornithology Section where he was Field Meetings Secretary from Ron 1962 to 1969 and Secretary of the Section from 1970 to 1973.

Ronald Henry Kettle, always known as Ron, was born in London on 10 November 1923, the youngest of three children, with an older brother and sister. After early school days in Acton, he won a scholarship to Christ's Hospital as a boarder at Horsham. There he developed an interest in natural history and in classical music and both of these remained with him throughout the rest of his life. He served in the army during the Second World War from 1942, being posted to India in the Royal Corps of Signals and subsequently, back in England, to the Education Corps. After demobilisation, he had a number of small jobs while also studying at Birkbeck College where he obtained a B.A. in maths and English literature in 1952. A stint of 17 years in the insurance business with the Prudential allowed time for Ron to become involved in activities in the LNHS and, from 1968, to develop a long-lasting commitment to adult education as a part-time tutor in bird studies, which continued until 1993.

The chance to break away from the tedium of insurance came in 1972 when he was offered the opportunity to become the first full-time curator at BLOWS (The British Library of Wildlife Sounds), a post he held for 16 years, retiring in 1988. At the same time, he managed to combine it with the voluntary role of leader of a revived local RSPB YOC group. After an initial meeting on Wimbledon Common, he launched a series of evening meetings and half-day and full-day excursions for budding ornithologists to such places as Richmond Park, Bookham Common, Thursley Common and further afield to Walton-on-the-Naze and Pagham Harbour as well as YOC holiday courses, including a weekend at Gibraltar Point. He also led occasional overseas trips involving a visit to Holland for the LNHS and a number of other destinations for Cox & Kings in which both LNHS and members of his classes participated.

At BLOWS Ron built up many connections around the world including a visit to the Library of Natural Sounds at Cornell University in America in 1977. He was a member of the Wildlife Sound Recording Society from 1972 and was elected its Chairman in 1988, when he also became the first managing editor of the newly established journal

Bioacoustics. Many of the Society's members donated recordings to BLOWS helping its collection to expand rapidly. During his three years as Chairman he organised the 11th meeting of the International Bioacoustics Council held in Cambridge in September 1989. As well as publishing discographies, he also compiled a number of cassettes of bird songs and calls published by the British Library Sound Archive and subsequently re-issued as CDs in collaboration with Richard Ranft.

Ron wrote several papers for the London Bird Report between the years 1982 and 2007 covering *Common Bird Census Results on a Woodland Plot on Wimbledon Common 1973-1980* (LBR47), *The Birds of Wimbledon Common and Putney Heath 1974-1996* in conjunction with D L Wills (LBR61), *The Bird Life of Cannon Hill Common, Merton* (LBR62) and an update in LBR72, and in 2006, a somewhat belated report of an enquiry he organised in mid 1970s into *Birds on London's Playing Fields* (LBR71). A brief summary had appeared earlier in the Ornithological Bulletin and, while results were rather limited, the survey had appealed to the young and attracted records from schoolboys as well as both a girls' and boys' school. Apart from the recreational purpose of playing fields, he hoped that such bird records would demonstrate their value as feeding and loafing areas for birds and maybe encourage their preservation as open green spaces in otherwise built-up areas. In fact, he submitted his own records from a local playing field in support of objections to the development of a hypermarket and hoped that his contribution had helped towards its rejection.

He joined the British Ornithologists' Club in 1982 and served a term on its Committee for the four years 1988-1991. He was a regular attender at Club meetings until 2010 when decreasing mobility unfortunately made the journey to Imperial College, where the meetings were held, too difficult. He enjoyed the talks and the socialising over a meal afterwards, perhaps rather more than some of the esoteric papers in the Club's Bulletin.

He met his wife, Irene, when she enrolled for one of his City Lit classes not long after she had moved to London. They were married in 1973 and they complemented each other admirably. He enjoyed watching cricket, having played a great deal of sport himself in the 1950s and 1960s and both he and Irene enjoyed classical music, attending Proms, and opera at Covent Garden and the Coliseum, though if it was the heavier stuff at the Proms like Mahler or Bruckner, Irene tended to leave Ron to go on his own.

Until an accident seriously restricted his activities, he led an extremely lively and varied life and his YOC students still have fond memories of their adventures with him. We have all lost a very good friend and always enjoyed his company often enlivened by his very firm views about the undesirability of all introduced bird species.

I would like to thank to Mike Dawson, a one-time member of his YOC classes, and Pat Sellar for kindly providing additional information.

DAVID MONTIER

PAUL FREDERICK SINEL CORNELIUS
1943-2014

PhD, DSc, FIBiol, CBiol, FLS

Photo: *Alexander Antsulevich*

Although Paul Cornelius's name first appeared in the *London Bird Report* for 1959, he did not join the London Natural History Society until 1990, when he soon immersed himself in our activities, being elected onto Council and the Library Committee. He was also a valuable member of the advisory group which published in 2002 *The Breeding Birds of the London Area*, his scientific background proving of inestimable value, not only in this case, but also when academic opinions were sought. Paul also took on the role of archivist following the death of Wyn Wheeler in 2005 (obituary, *LN 85*, 2006), but had to relinquish this task due to health problems. But it wasn't only in the LNHS that Paul left his mark; marine biology was to become his forte and he became internationally respected in his chosen field.

Paul was born in Redhill, Surrey on 15 August 1943 and lived with his parents in Sanderstead. His father Lionel Walter Cornelius had been active in the LNHS, contributing to the *London Bird Report* from the 1950s to the late 1970s, and Paul presumably accompanied his father at times as his name also appeared in the *London Bird Report*. Their records were from the Surrey part of our area. Paul was very proud to have received his bird-ringing permit at the age of seventeen. He attended Wallington Grammar School then in 1961 he went to Exeter University where he obtained a Lower Second degree in zoology. However, this prevented him from pursuing a PhD or doctorate on grouse in Scotland which he had arranged, so instead of studying birds, which he loved, he went to Bangor University to do an MSc in marine biology, and thus his career took a completely different path. Paul's next success was a PhD on barnacles at Queen Mary College, University of London in 1968. He was a warded a DSc by the University of London in 1989.

In 1968 Paul obtained a temporary post as head of the Biology Department at North Paddington (Comprehensive) Upper School. This was a fixed-term appointment whilst the permanent postholder was on a sabbatical. To Paul's credit, at the end of his tenure, every one of his CSE group passed, a unique result in the school that year where the pupils doing biology were acknowledged to be below par and slow in maths. Then he had a brief spell from September to November 1969 as a supply teacher around London comprehensives, which he described as 'a horrible job'.

But on 1 December 1969 his fortunes turned and he was appointed head of Cnidaria (coelenterates) Research in the Department of Zoology, British Museum (Natural History), and there he spent the rest of his professional career. Paul had inherited an enormous task as for many years the Coelenterate Section had been neglected, the bottled collections were drying up and nothing was properly indexed. Fortunately, he was able to obtain willing junior staff whom he trained to a high standard of competence. The collections became properly curated, indexed and available for study, and research-visitor frequency soared. Paul was justifiably proud that he had put the Coelenterate Section back on the professional map.

Much of Paul's time was spent preparing revisionary works, mainly on the British fauna, either taxonomic or geographic, and to this end he contributed around a hundred articles to scientific journals, as well as a 730-page two-volume revision of *North-West European Thecate Hydroids and their Medusae* for The Linnean Society of London's *Synopses of the British Fauna* series. He also contributed articles popularising the biological sciences for *Encyclopaedia Britannica* and *Reader's Digest*.

Such was Paul's reputation that he was enlisted as an academic consultant or visiting lecturer and professor overseas, especially to Brazil and Thailand. He was a PhD examiner for some students of the Universities of London (1996, 1997), Southampton (1994) and Cork (1996), as well as for a number of other foreign universities. However, in the 1990s, Paul was instructed to abandon his work on the hydroids and to undertake work on a 'more important' group, so he turned to the jellyfishes where, being the true professional, he initiated worldwide fieldwork on them. But the Museum faced a further round of drastic budgetary cuts and Paul was among senior research staff who, due to the disheartening circumstances, took early retirement in 2000.

Paul had met his future wife Patricia Browne at Chelsea Spelaeological Society when he was secretary and she treasurer, and before they married they caved in numerous countries in Europe and beyond. They also enjoyed visiting African and Far Eastern hotspots to study the marine life. In 1994, Paul had an official trip to Australia, travelling on to Papua New Guinea and the Philippines where, to his delight, he learned to scuba dive. When he went to Papua New Guinea and the Philippines the following year, Pat went with him and also learnt to scuba dive, and Paul did a more advanced course. They searched for jellyfish and dived in marvellous places.

Following his retirement, Paul and Pat continued to have regular holidays abroad, especially to the eastern Mediterranean region. But in 2004 Paul was diagnosed with prostate cancer and in June 2005 he had his first operation. From February to July 2007 he had radiotherapy but the cancer recurred and he had chemotherapy. Paul transferred from Guy's to the Royal Marsden Hospital in August 2014. He was admitted and died suddenly there on 26 October 2014.

In Paul's passing we have lost a great friend and an exceptionally gifted scientist. Our condolences go to Pat and their sons Justin and Graham.

KEITH H. HYATT

BOOK REVIEWS

NATURE IN TOWNS AND CITIES

David Goode. 2014. New Naturalist No. 127. William Collins.420 pp.
Hardback: £55 ISBN 978 0 00 724239 9; paperback, £35 ISBN 978 0 00 724240 5

Last year I found a freshly decapitated and half-eaten sparrowhawk surrounded by the remains of a dismembered pigeon. It wasn't hard to see what had happened; the hawk had swooped on the feeding pigeon and as its talons sank in, the local fox had pounced and disposed of them both. A rural scene? No, this happened in my communal garden, a few hundred metres from the British Museum. As David Goode remarks in this long-awaited *New Naturalist*, nowhere are foxes so common, food so plentiful and wildlife so easy to observe as in the towns and cities where most of us live. Drawing on many years of experience as an urban ecologist, and a lifetime of studying the animals and plants in our towns, Goode describes the nature of urban wildlife and how it complements and enriches the open countryside that most naturalists are concerned with.

He begins with descriptions of the various urban habitats, from "encapsulated countryside" (little different from its rural counterparts, though with more dog-walkers) through man-made structures to suburban gardens (a specialised habitat, extraordinarily rich in species), with accounts of the plants and animals each supports, and stories of the sites themselves and their history. Examples come from all over Britain and Ireland but London and Goode's adopted home city of Bath are particularly well represented. Those of us brought up on Richard Fitter's *London's Natural History* will enjoy tracing the changes in the 70 years since that was published, as *New Naturalist* No. 3. Species names are in English, apart from some groups where they are not available. The index adds Latin names (recent revisions to plant names came too late for inclusion) but unfortunately it is not free of error. Besides typos (*Brium* should be *Bryum*) and inconsistencies (the entries for fleabanes are very confused) there are some mis-identifications; for example' the Chinese mugwort in our towns is *Artemisia verlotiorum*, not *A. argyi*, and our Hutchinsia is *Hornungia petraea*, not *Pritzelago alpina*.

The next few chapters deal in greater detail with the changing fortunes of a number of familiar birds (which Goode acknowledges as his prime interest) and mammals, including waterfowl such as Canada goose and ruddy duck, raptors, especially the peregrine falcon and red kite, seabirds, with a discussion of the good and bad points of gulls, house sparrows, foxes (see above) and badgers, as well as newcomers such as ring-necked parakeets and little egrets.

After these accounts of *rus in urbe*, the final chapters describe in considerable detail how urban natural history has evolved, since Fitter's time, from a fringe topic of little relevance to the promotion of biodiversity and conservation, to a driving force for education and appreciation of nature and a concept that can (in principle) be closely aligned to development and regeneration of the city fabric. No-one is more qualified than Goode - previously Senior Ecologist, Director of the London Ecology Unit and Head of Environment at the Greater London Authority - to write this insider's account.

Such is the breadth of this subject that reviewers cannot expect to find all they might wish. Oliver Gilbert's seminal work on urban habitats, and particularly their changes and development over time, is cited; his *The ecology of urban habitats* (1989), with its discussion of the role of worms, bugs and other microfauna in re-shaping soils, is essential reading. Understandably, Goode concentrates instead on the larger, more showy taxa. I should also have liked more about air and water pollution, and about interactions between native and introduced species - factors that are especially significant in towns and cities. And I fear there is more optimism than realism in the belief that current urban planning policies are compatible with, or even favour, sensitive and nature-friendly development. Inevitably there is a trade-off between old nature and new build, usually to the detriment of nature. We have lost the scruffy and species-rich brownfield sites, Gilbert's "urban commons", that underlie the sanitised lawns and tarmac of the Olympic Park, just as the unkempt street verges and canal-side paths at Kings Cross are disappearing beneath the glass towers of Google *et al.*

But what we still have is riches enough, and this book describes it admirably, with fine photographs, many by Goode himself, and in a style that will appeal strongly to the *New Naturalist* readership. The contributions of the London Natural History Society feature prominently; members who think of the LNHS primarily as a recording body will be interested in the significant part it played in establishing London's nature reserves. It is fitting that the book was launched at one of the newest of these, Camley Street Natural Park, which owes its existence largely to David Goode and which remains, hopefully permanently, as a flourishing survivor of the Kings Cross re-development and a tribute to David's devotion to urban ecology.

JOHN EDGINGTON

URBAN PEREGRINES

Ed Drewitt. 2014. Pelagic Publishing. 250 pp. Hardback. £24.99.
ISBN 978 1 907807 81 7.

Once a bird on the verge of extinction, the peregrine falcon has colonised many of our towns and cities over the past 30 years. It was only fair that they should have a book tracing and explaining their success. Who better to write it than Ed Drewitt who has been studying urban peregrines for the past 15 to 20 years? In particular, Ed has systematically studied the diet of some urban peregrines, painstakingly collecting feathers, prey remains, pellets. A whole chapter is devoted to what they eat and their hunting techniques, such as nocturnal hunting, which Ed was instrumental in discovering. Many people may be surprised at how varied their diet is.

Ed starts by introducing us to the peregrine falcons with a chapter on their evolution, physiology, special adaptations, what makes them so successful in urban places and how they came to share our space. He then tells us how we can go about to spot Peregrines and when.

He devotes a whole chapter to a year in the life of the peregrines starting in late summer and autumn, which is when new birds might appear in towns, either looking for a nesting site for the following year or just to winter. Winter for resident birds is a time

Peregrine. (Tony Duckett)

to get ready for the following year with courtship, preparing the nest site and chasing intruders. Spring is about laying and incubating eggs then raising chicks. Some urban pairs seem to start earlier than rural birds studied 40-50 years ago. Ed finishes the chapter talking about cooperative breeding, extra-pair copulations, polygamy, inbreeding.

We are currently learning so much about peregrines, these are very exciting times and Ed gives some very good recommendations if you want to study peregrines in towns, both the birds and their prey. I have been monitoring a pair since 2007 and I have still learnt a lot.

The book ends by looking at the threats urban peregrines face, what the future might be and their relationship with us, people. With the peregrine population increasing in southern England and in our cities, what better opportunity is there to get more people, in particular young people, involved in wildlife than by introducing them to the fastest bird in the world?

I thoroughly enjoyed reading this book and looking at the many wonderful photographs illustrating it. I recommend it to anyone wanting to know more about these charismatic birds.

NATALIE MAHIEU

TALES FROM CONCRETE JUNGLES - URBAN BIRDING AROUND THE WORLD

David Lindo. Bloomsbury Books. 2015. 240 pp. Hardback. £14.99. ISBN 978 1472918376

For anyone who thinks you have to venture into the depths of the countryside to see interesting birds, David Lindo's book will be an eye opener. He shows us that, once you know where to look, great birds can turn up in any city, especially on migration.

Much of the text is based on a series of articles which have appeared in recent editions of 'Birdwatching' magazine. It is written in an informal, conversational style, appropriate to a birders' magazine, though perhaps a little unexpected in a hard back book. It begins by telling us how the author developed his passion for birds in early childhood, starting with the garden birds of his North London home, venturing off as a teenager into the wilds of Rainham Marsh, then inhabited by east end wide boys or the military, a far cry from today's tranquil RSPB reserve.

It then moves on to describe visits to a wide spectrum of towns and cities, usually in the company of a local guide, exploring birding hotspots and documenting the species found. We read about Sheffield's tower-nesting peregrine, Brighton pier's spectacular starling roost (which will remind many readers of our long-lost wondrous displays around Trafalgar Square) and further afield Belgrade's pygmy cormorants and long-eared owls, and Reykjavik's great northern divers and red-necked phalaropes. The sheer range of species found within the fabric of cities is remarkable.

Whilst finding rarities is what matters for most birders, it is refreshing to encounter one who also acknowledges the interest to be found in more common species, including that most adaptable of city birds, the feral pigeon. But David is less generous towards the rose-ringed parakeet, which has recently adopted Wormwood Scrubs, his cherished local patch, streaming in by the thousand on winter evenings.

The book does not pretend to be a textbook on the ecology of urban birds; it is as the title implies, 'Tales' about urban birding. But I would have liked also to see a broader overview, discussing how landscape, architecture and city planning have influenced the urban bird communities, with perhaps a little more comparison of which species occupy particular ecological niches found in every city, be it street scavenger, park lake or cemetery in different parts of the world.

More illustration might also have helped - the author mentions that some of his guides were bird artists, and yet the only illustration within most of the book is a much- repeated city skyline. How much better if we saw line drawings of peregrine over a Sheffield church tower, long-eared owls in Belgrade or house sparrows by a Paris café?

If, like me, you like to take some of your holidays exploring foreign cities, this book will remind you to pack your binoculars as well as your 'Lonely Planet' guide and help you to track down the avian hot spots, whether you are heading to the cities of Europe, America, Africa or even the Far East. What the author is especially good at is sharing his enthusiasm for finding interesting birds in unlikely places. He makes you want to leap out of bed at 5a.m. and go see for yourself.

JAN HEWLETT

BILL ODDIE UNPLUCKED: COLUMNS, BLOGS AND MUSINGS

Bill Oddie. 2015. Bloomsbury. 224 pp. Hardback. £14.99. ISBN 978 1 4729 1531 3

As the title suggests, this is a compilation of pieces written by Bill Oddie, and previously published elsewhere, in a variety of different media. They have, however, been reviewed and expanded, with some original material, previously removed in the editing process, restored.

The book is divided into a series of (fairly loose) sections, covering such topics as Bill's garden, its wildlife, and the neighbours, to overseas birding, and wildlife TV. The book benefits greatly from Bill's illustrations, which, while not necessarily the most scientifically accurate, are expressive and idiosyncratic.

As with many books of this nature, the disparate sources do not contribute to a particularly consistent approach, and the categorisation is a little random. Some pieces work better than others - the transcription of the blog entries, in particular, does not seem especially well suited to the book format. Nevertheless, there is a lot to enjoy in this book: there is a disarming honesty, as well as wit and wisdom here. Bill's exposition of the difference between a birder and a twitcher is worth remembering for those who tire of the two terms being treated as synonymous; and, thanks to Bill, we now know the location of the best sewage farm in the world, what to call an Australian birder, and the first rule of Moth Club.

This is a book to be dipped into, rather than to be devoured at one sitting, and indeed may benefit from the items being read randomly rather than consecutively. Most readers are likely to have formed their opinions of Bill Oddie's style already, and I suspect that this volume may not win too many converts. For those of us who enjoy his work, however, this book will be a very welcome addition to our library.

NICK RUTTER

BEHIND THE BINOCULARS: INTERVIEWS WITH ACCLAIMED BIRDWATCHERS

Mark Avery & Keith Betton. 2015. Pelagic Publishing. 252 pp. Hardback. £16.99.
ISBN 978 1 78427 0506

This intriguing book consists of transcripts of a series of 19 interviews with a range of notable members of the birdwatching community. These range from the celebrity of Chris Packham (though no Bill Oddie) to the senior executives of the RSPB, BTO and WWT, with a number of other high profile figures, including Lee Evans, Stephen Moss and Ian Wallace. The interviews were conducted separately by Mark Avery and Keith Betton, who also manage to interview one another. The interviews were conducted over a number of years, and it is pleasing that the late Phil Hollom was interviewed. One interview is a joint one - Alan Davies and Ruth Miller are interviewed together, and this results, in this particular case, in a slightly disjointed piece.

Each interview takes a fairly standard format - a review of formative influences, career development, views on the state of birdwatching and the future, and then a series of somewhat random questions on favourite films, records and books. It is not entirely clear what, if any, conclusions one is expected to draw from these last preferences, other than, perhaps, an inordinate fondness for Pink Floyd. There is, however, a great deal more of substance to be found in the interviews, and the authors helpfully bring out some common threads in a useful final section.

Among those common threads are the influence that early mentors can have, and how the great majority of interviewees had become interested in birds at a very early age - typically, under ten. It is also noteworthy how many of the interviewees speak fondly of particular books - not just the inevitable (given the age of many interviewees) *Observer's Book of Birds*, or field guides (with a perhaps surprising numbers of devotees of the Heinzel, Fitter and Parslow guide), but also the *AA Reader's Digest Book of Birds*, with its striking, if somewhat unnatural, illustrations.

The interviewees cover a wide range of ages, from the late Phil Hollom, interviewed when past his century, to Rebecca Nason, born in the 1970s. Rebecca is one of the four female interviewees from the total of 20, which may reflect the preponderance of males among the community of "acclaimed birdwatchers". It is, however, interesting to note a number of comments to the effect that the gender ratio among those engaged in wildlife conservation and research is much more evenly balanced.

With some notable exceptions, the tone is somewhat pessimistic, with several voices decrying the lack of fieldcraft and basic skills now on display. At times, this does risk bringing the book into "Grumpy Old Birders" territory, but there is sufficient variety in the views expressed to mitigate this. For example, while many of those interviewed are less than enthusiastic about photography, Rebecca Nason is an outstanding photographer, and Robert Gillmor is an enthusiast, both for the quality of the photographs now produced, and for their liberating impact on artists. Perhaps it might have been heartening to hear more of those interviewed echoing Chris Packham's commitment to engendering enthusiasm among a younger generation, having himself experienced some negative treatment from his elders.

A book like this is inevitably patchy, as much will depend on the reader's interest in the subject of any given interview. Overall, however, this is a fascinating read, ideal for dipping into, and full of small nuggets - such as Phil Hollom's experience of surveying London's gravel pits in the private plane of a member of the Japanese Royal family; or Chris Packham's unique analogy of what it would be like to meet Audrey Hepburn. The authors are to be congratulated on producing a highly enjoyable work.

NICK RUTTER

MAMMALS OF ESSEX

John Dobson & Darren Tansley. 2014. Essex Field Club. 260 pp. Hardback. £20.
ISBN 0 905 637 19 4.

This attractive book is effectively a completely revised edition of the lead author's original publication, produced in 1999, that was the first modern tetrad atlas for the county. Since publication of that volume, much has changed in the Essex mammal world, including new species for the county and a much greater volume of recording activity leading to maps of greater accuracy than was possible fifteen years ago. Written by one of the UKs leading mammalogists, this latest Atlas sets new standards for future publications and the updated distribution maps, showing records between 1980-1994 and 1995-2014, are worth the purchase price alone.

The book is, however, much more than just a standard tetrad atlas that covers both the modern county and the five Greater London boroughs of Havering, Barking & Dagenham, Redbridge, Newham and Waltham Forest. As would be expected, the bulk of the book consists of extensive species accounts, each lavishly illustrated with photographs together with colour drawings and graphs where appropriate, but these are not at the expense of the text. The book opens with chapters on fossil mammals and Essex habitats, in order to put the subsequent species accounts fully into context, and concludes with chapters on escapes and exotic species, together with a helpful section on field signs and extensive references.

In summary, there is much here to interest the mammal specialist and the general naturalist alike. Both groups will find this book a treasure trove to dip into throughout the year and a valuable resource on their library shelves irrespective of their connection with the county. At a modest cover price, it is to be highly recommended and deserves to achieve a wide circulation. Hopefully, like the first book, it will provide a fresh impetus for Essex mammal recording.

CLIVE HERBERT

MENAGERIES IN BRITAIN 1100 - 2000

Christine E. Jackson. 2014. The Ray Society, London. 299 pp. Hardback. Unpriced.
ISBN 978-0-903874-45-8.

This interesting and unusual book in the diverse series of Ray Society publications has fallen to me to review because of the bias of exotic mammals in the various collections described and it merits inclusion in *The London Naturalist* in view of the significance of the Capital in the overall history of animal collections.

The book can be divided into two unequal halves. The first seven chapters describe the royal menageries and are presented in chronological order from Henry I (1100) through until the end of the Victorian age, after which gifts to the monarch were passed directly to the Zoological Society of London (London Zoo was founded in 1826). The subsequent chapters (8-15) cover travelling and commercial menageries, private menageries and aviaries, dealers and, finally, a closing chapter on the twentieth century.

The book presents an accurate and detailed history of animal collections over nine centuries, seamlessly interwoven with the evolving rationale behind such menageries and the ever-changing perception of animals and their husbandry and treatment throughout the ages. Initially, the public must have gazed in awe at the lions, leopards and other strange animals present in the Tower of London during the reign of King John and the arrival of an elephant, given to Henry III in 1255 and probably the first seen in Britain since the Roman period, would have caused further astonishment. From being royal prestige menageries, collections gradually expanded to include touring spectacles across the country and, in latter centuries, what we now understand to be a ‘zoo’ came to be established. These became fashionable venues for a day out and often incorporated an entertainment element, such as the chimpanzee tea parties which were discontinued at London Zoo only as recently as 1972. The book finishes with the modern menageries moving firmly away from spectacle and entertainment and into the current remit of education and conservation in the present century.

In summary, this is an excellent book that has been produced to a very high quality and is an interesting addition to the library of any naturalist with wider interests in both history and social attitudes towards animals.

CLIVE HERBERT

WHERE DO CAMELS BELONG? THE STORY AND SCIENCE OF INVASIVE SPECIES.

Ken Thompson. 2015. Profile Books Limited. 262 pp. Paperback. £8.99.
ISBN 978 178125175

This book is a heartfelt plea for the re-evaluation of the concept of native and alien species. Thompson provides a thought-provoking examination and, indeed, an exposé of a subject that continues to perpetuate the idea of 'nativeness' as having an ecological reality. It challenges an orthodoxy that misrepresents certain species as invading, damaging hordes.

The terms 'native' and 'non-native' species were introduced by HC Watson (he of vice-county fame) to serve as a means of distinguishing 'apparently aboriginal' species from species previously unrecorded. The intention was a scientific one to facilitate the correlation between species, soil and climate, which it was considered might be confounded by the inclusion of introduced species. Ken Thompson demonstrates that the current interpretation of these terms cannot be more removed from science, having acquired moral, political and economic dimensions. The 'topic' is also one that serves to fan media hysteria as opposed to any attempt to understand the natural world.

The origins of species is a fascinating yet vexed subject that defies any simple answer. Over geological time scales, meandering continents and evolutionary processes have changed, and continue to change, the planet, its inhabitants and their relationships. Humans also continue to have a role in moving species around on a global scale, but having set ourselves apart from the natural world, the same activity is seen in a different light.

Native species are defined as those that made it back over the Channel before the end of the last glaciation. Does that matter? Only if we decide it does and attribute a value to those lucky chancers, and we have. Britain is not well-endowed with native species and, of the 1,500 species afforded native status, around 20% (300) are doubtfully so. Research by David Pearman, ex-president of the Botanical Society of the British Isles (BSBI), has concluded that three-quarters of these are most certainly or very probably introductions, snake's-head fritillary, monkshood, fly honeysuckle, snowdrop and gooseberry amongst them. However, our definition of native is not, if anything, consistent. Native status can be accorded to those species we like and want to protect. The hare, present before, but introduced after the last glaciation, has its own Biodiversity Action Plan, as does the white-clawed crayfish which, evidence suggests, was another introduction.

Ken Thompson presents numerous reasons for challenging the seemingly inordinate hatred of aliens which permeates some scientific and conservation circles. These include the use of unreliable, discredited data; lack of knowledge about the ecology of invasions; routine and gross exaggeration of costs; the propagation of the lie that alien species constitute the second largest global threat to biodiversity (after habitat destruction). Real threats to human survival and well-being - war, disease, pollution, climate change, shortage of energy, minerals, food and water - are ignored. He also discusses the ecological shortcomings of the native vs. alien debate. Species' communities are treated like fixed entities. Do we really know what the full species compliment of any community is? Ecology suggests that communities change over time and there is no final completed state. One reason is that communities are always recovering from the last disturbance, another that the number of species in any one place seems to be limited by the number of species that can get there, i.e. by dispersal.

In chapters 3 and 4, four species - the brown tree snake, zebra mussel, purple loosestrife and tamarisk - vilified for a variety of reasons, are put under the spotlight. What becomes clear is that the natural world is no simplistic model. The case for the prosecution appears pretty conclusive on all four counts, until the defence explodes the myths created and perpetuated by poor or non-existent 'science'. The book is full of further examples. Many of these provide evidence that challenges long-held assumptions that have been absorbed into alien 'folklore'.

The subject of invasive species is one which has become part and parcel of the native/alien 'debate'. Yes, there are species that go on to pose problems, but Thompson shows that these are often problems of our own making. Not only have we been introducing species, but we have been creating the very conditions that favour their survival and spread. Transformation of the landscape favours fast-growing, effectively dispersed species. Introduction and subsequent cultivation help plants over the initial hurdle of establishment; cheap, widely available plants have had more opportunities to escape. We need look no further than the growing list of species making up London's flora.

Thompson shows that theories purporting to explain the success of introduced species are unsupported by the evidence. *Enemy Release Hypothesis*, for example, suggests that aliens have fewer enemies in their introduced range, however, if the source population (a more restricted group) is considered the difference disappears. The success or otherwise of species has nothing to do with their native or alien status, it has to do with their functional characteristics and habitat suitability. *Propagule pressure*, i.e. those species that have been introduced more often and in large numbers are most successful, provides a more convincing theory. Another interesting piece of information, which runs counter to orthodoxy, is that diverse communities are diverse because they are invasible.

This book contains an impressive range of information and takes a global perspective. It provides a refreshing challenge to a debate and activities that are hugely worrying.

As to where do camels belong.... it depends.

ANNIE CHIPCHASE

FIELD GUIDE TO INVASIVE PLANTS AND ANIMALS IN BRITAIN

Olaf Booy, Max Wade and Helen Roy. 2015. Bloomsbury Press. 304 pp. Paperback
£24.99. ISBN 978 1408 1 2318 8

Many years ago, in Assam, north-east India, I used to enjoy watching flocks of ring-necked parakeets passing overhead each evening to their roosts in nearby hills. It would have been extraordinary to have known that in the new millennium that same species of the parrot family would be flying daily over my house in south-west London in similar numbers to their roost in Esher. Among the waterfowl in some London parks the Egyptian goose (a species of duck) is outnumbered only by the long established Canada goose; a strikingly

Himalayan balsam. (Katharine Banham Hall)

marked east Asian ladybird is the most frequently seen coccinellid in the environs of my house and New Zealand weevils are feeding in the decayed wood in my garden fence. The composition of the fauna and flora of Britain has changed significantly, particularly in and around London, in the 55 years since I first took an interest in natural history.

There are many hundreds of naturalised foreign species of animals and plants in Britain now, and there is the threat of more to come. They hail from the temperate zones of all the continents, our rivers and lakes as much affected or more so than our terrestrial habitats. What will be next, African ibises and Asian hornets? Quite possibly; both are already in France. Some might be tempted to think of these introductions as welcome additions to our relatively impoverished fauna and flora, especially the more showy species. Unfortunately, the reality is that many of these introductions cause a reduction in local biodiversity. Vigorous foreign plant species can overwhelm native flora, certain introduced animals are spreading disease among native species that have no immunity. Some species are serious economic pests e.g. the *Fallopia* knotweeds can cause structural damage to properties and the quagga mussel may completely clog water pipes and cause major problems for water companies.

This book is, as far as I know, the first field guide to introduced animals and plants in the British Isles. The three authors are ecologists with a particular interest in non-native organisms. With so many species to consider, the book concentrates on those deemed to be invasive. Their definition of invasive non-native species is those introduced by human agency and having a harmful effect. They point out that the majority of introduced species are benign, although in our freshwaters the proportion of harmful introductions is around 40%, much higher than those on land. However, the rate of non-natives being introduced and becoming established is rising. The authors state the surprising fact that there are already nearly as many naturalised non-native plants in Britain as there are native species.

Each species covered in this book is illustrated with a full page of comprehensive information including a description with diagnostic features; comparison with similar species, native and non-native; area of origin; status in Britain; date first recorded in this country; means of spread and current or potential impact. For some groups of species, comparisons are set out in a useful tabular form to further aid identification. Also included are many species that are present in Britain but not yet established or not yet recorded but that might well arrive in this country and become invasive. The sections of general information include advice on how to record and report invasives and to how to avoid inadvertently aiding their dispersal.

There are a very few minor printing errors where the native distribution of one species has been incorrectly repeated for the next, also a photo purporting to be the native mosquito *Culiceta* shows a cranefly. However, these do not detract from a most useful and interesting book for naturalists, those doing ecological surveys as well as people who have to deal with invasive species in an official capacity.

STUART COLE

THE LONDON NATURALIST

INSTRUCTIONS TO CONTRIBUTORS

Submission of papers

Contributions must be submitted in Word format only as an email attachment to the editor, Nick Rutter, at nick.rutter@btinternet.com. The editor may be contacted at any time on the above email address to discuss possible contributions and can send an extract to show our style, as a guide to preparing the manuscript, which should be followed as closely as possible in regard to layout. Please contact the editor before the end of February if you wish to contribute to the forthcoming issue. Manuscripts should be typed with single spacing using the Trebuchet font. Papers should include an abstract. All papers are peer-reviewed as appropriate. Papers should be relevant to the natural history and archaeology of the London Area. This includes comparisons between London and its surrounding countryside with other localities, as well as work relating to or comparing species or habitats which occur in the London Area. Contributions of relevance nationally will also be considered where space permits.

Text

Locality spellings should follow the latest edition of maps published by the Ordnance Survey.

Capitalisation should be kept to a minimum. Common names of plants and animals must begin with lower case initials (except for proper nouns) and only Latin names of genera and species should be typed in italics. Genus names should appear in full where first used within each paragraph. When scientific names are taken from a standard work, which must be cited, authorities may be omitted. In descriptive matter, numbers up to a hundred should be in words, except in a strictly numerical context. Dates should follow the sequence of day, month year, e.g., 25 December 2014, but in lists may be given as 25.xii.2014. There should be no full point following Dr, Mr, Mrs, Ms or St or in well-known abbreviations such as LNHS. Speech quotations should be double but all others single. Lists should be in systematic, alphabetical or numerical order. Tables and figure legends should be included in the appropriate place within the text. Text should not use italic, bold or compressed typeface. Paragraphs should not be indented. Sentences should not begin with numerals. Footnotes and endnotes should be avoided.

References

Authors must ensure that all references quoted in the text are listed in the reference section and are cited accurately, as they will not be checked by the editor. Capitalisation in titles of books and papers in journals should be kept to a minimum. Journal titles should be in full, or follow the abbreviations in the *World list of scientific periodicals*, and be italicised. Book titles should also be in italics. Reference citations should follow the examples given below.

In text:

Meadows (1970) or Meadows (1970:80)

In references:

MEADOWS, B.S. 1970. Observations on the return of fishes to a polluted tributary of the River Thames 1964-9. *Lond. Nat.* **49**: 76-81.

MELLANBY, K. 1970 *Pesticides and pollution.* Ed. 2. Collins, London.

WHITE, K.G. 1959. Dimsdale Hall Moat, part II. *Trans. a. Rep. N. Staffs. Fld Club* **92**: 39-45

Illustrations

Distribution maps should be submitted in the form of a recording map with solid dots used to indicate contemporary or recent presence, open circles for old records and crosses (not pluses) for other information, such as introduced species. Captions should be written outside the frame but scale bars included within the frame of the map.

Photographs containing wildlife must be ethically obtained in accordance with a relevant code of practice or licensing scheme; photographs breaching UK or EU legislation will not be used. Photographs must have been taken by the author or the photographer must have given consent to use the image. Submission of a photograph confirms that you have complied with these terms. Photographs should be unedited, uncropped and of high definition. They should be sent as an email attachment (maximum size 10 MB only).

Line drawings should also be supplied digitally.

London
Natural
History
Society
Published December 2015
© London Natural History Society
www.lnhs.org.uk
Price £8.00

FSC
www.fsc.org
MIX
Paper from
responsible sources
FSC® C113523

ISBN 0-901009-36-9
9 780901 009364 >